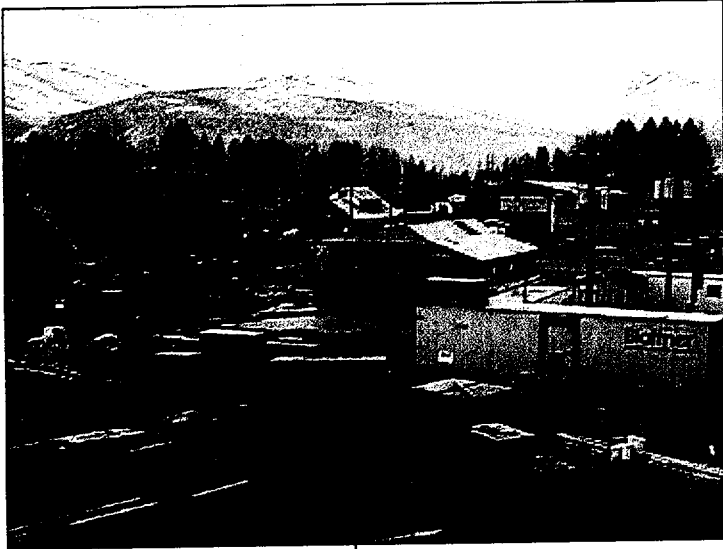


GRACE

Draft Work Plan



***Removal and/or Abatement of
Asbestos and Vermiculite
at the Libby Asbestos Site***

Prepared for

W.R. Grace & Co.

6 June 2000

URS
Radian

CRAIG L. WEBER
URS. RADIANT
(303) 675-2620

For : Paul Peronard

US Environmental Protection Agency
Information Center
501 Mineral Avenue
Libby, MT 59923
(406/293-6194) Office
(406/293-5668) Fax

TO Paul Pearson
FROM: Smith
PAGES (INCLUDING COVER)

Location/Fax#: 303-312-6962
FACSMILE NO. 406/293-5668

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June 8, 2000

Comments on Draft Work Plan
Removal and/or Abatement of Asbestos and Vermiculite at the Libby Asbestos Site

Prepared by URS Radian
POC Mr. Jim Stout 303-675-2634

Prepared for W.R. Grace & Co.

Dated June 6, 2000

Review comments by Jude Hobza

DESCRIPTION	Section Number	Page	Comment
Site Location & Description of Property	1.1	1-3	1. The 13,800 residences is within a 4-5 mile radius of Libby.
Recent Regulatory Developments	1.3	1-7	1. This section states that " In a few hot spots the levels of asbestos in the soil samples exceeded two percent". Provide reference for this information.
Work Plan Organization	1.4	1-8	<p>1. The six bullets list the plans to be provided after mobilization. Approval of the plans are required prior to commencement of activities at the site. Submitting these plans after mobilization does not allow time for adequate and appropriate review prior to your procurement and implementation.</p> <p>2. Additional plans to be addressed in accordance with the Scope of Work are:</p> <ul style="list-style-type: none">• Test Pit Excavation Plan• Building Decontamination Feasibility Plan• Equipment and Personnel Decontamination Plan• Site Control Plan• QA/QC Plan for Backfill and Compaction Requirements
Scope of Work	2.0	2-1	1. Third bullet is based on assumption that USEPA approves the decontamination procedure based on the Building Decontamination Plan.

words for
is 7...
subject
+ 4-5 mile
removed
17-18

on Alternative 1
alternative proposal

to
address
deeper
unex.

06/09/00 FRI 12:59 FAX 3033126071

Task 1 - Project Planning <i>Traffic Control Plan</i>	2.1.1	2-3	<ol style="list-style-type: none"> 1. Traffic Control Plan shall address types of signs, locations and distance between signs. DOT, State and County requirements shall be followed at a minimum. Possible signs required include, but are not limited to Flagman Ahead and Heavy Trucks Entering Ahead. 2. Provide plan view of vehicle route for traffic control. 3. Show decou pads on plan view of vehicle route. 4. Show flagman locations on vehicle route.
Task 1 - Project Planning; <i>Dust Control Plan</i>	2.1.1	2-3	<ol style="list-style-type: none"> 1. Hydrant is located within the zone of soil excavation. Address requirements for use of hydrant for dust control with regard to accessibility. 2. Is a meter to be used to track water usage for payment purposes? 3. Meteorological Station shall be present and used on site for duration of field activities.
Task 1 - Project Planning; <i>Erosion Control Plan</i>	2.1.1	2-4	<ol style="list-style-type: none"> 1. Identify contractor to perform survey. 2. Identify location of bench marks. 3. What contour interval is to be used? 4. Use scale bar on all plan views. 5. Identify any State and Local Agencies that must review erosion plan. 6. Runoff onto designated clean areas is also a major issue that must be addressed.

Task 1 - Project Planning; Building Decontamination Plan	2.1.1	2-4	<p>1. Discuss water filter media and discharge requirements.</p> <p>2. Are the cleaning rooms within each building?</p> <p>3. Provide plan view schematics of decon layout for structures and for materials within structures to be deconed.</p> <p>4. How are materials, following deconning and transfer to through clean room, transported to Sprung Building if this task is completed prior to soil removal?</p> <p>5. When will inventory of materials in located in structures be conducted? Will all building contents within all buildings be inventoried at the same time?</p> <p>6. Is insurance being carried on materials while under control of W.R. Grace?</p> <p>7. Due to the type of construction and the nature of the construction materials, discuss how HEPA vacuum will be successful in decontamination of buildings.</p> <p>8. Are all materials removed for disposal being double wrapped during transport? <i>or covered in some other manner?</i></p> <p>9. What mil thickness is being used to wrap materials for disposal?</p>
Task 2 - Project Management	2.1.2	2-5	<p>1. Sample results to be sent to State and USEPA within 2 days of receipt of results.</p>
Task 4 - Site Preparation	2.1.4	2-6 & 2-7	<p>1. Temporary lumber storage to be accessible by tenant.</p> <p>2. Are sumps installed in all storage areas?</p> <p>3. SOW requires 20 mil liner for equipment decon.</p> <p>4. SOW needs to be clarified in terms of 1 inch gravel. This should read 1 inch stone. A 1 inch gravel layer in the equipment decon will provide little protection to puncture of the liner.</p> <p>5. Address over spray concern at equipment decon.</p> <p>6. Building decontamination on Page 2-4 does not address issues in last bullet.</p> <p>7. Task 3 on Page 2-6 does not discuss mobilization of decon trailers, How many trailers are to be mobilized?</p> <p>8. The traffic control plan on Page 2-3 does not discuss the traffic issues and control at the pads. No mention of additional plan to address this is made.</p>

*every room
wraps to prevent*

*what about
removal of
sidings?
what about
wood floors?*

*Tenant
City object
to relocation
or property
due to public
concerns.
This could
also be
HHS issue
please find
another inst.
that is
suitable.*

also discuss how coordinated

Task 5 - Site Support Services	2.1.5	2-9	1. Show tentative re-location area of road contractor on plan view.
Task 6 - Furnish/Install/Operate and maintain Sprung Building	2.1.6	2-9	1. How will the clean corridor be established and what materials shall be used?
Task 7 - Pole Barn (Building 1) Decontamination	2.1.7	2-9	<p>1. How will the aggressive air sampling be performed in the building following decontamination?</p> <p>2. What is intent for decontamination between corrugated metal roof and underlying asphalt shingles?</p> <p>3. How will electrical utilities and wiring be protected from power washing?</p> <p>4. Is over spray an issue and how will it be addressed?</p> <p>5. Can asbestos be removed between wood siding and wood framing?</p> <p>6. Materials cleaned and removed for storage must be returned to the structure.</p> <p>7. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.</p>
Task 8 - Old Vermiculite Storage Warehouse Decontamination	2.1.8	2-10	<p>1. What is decon procedure between metal roof and wooden roof?</p> <p>2. Can asbestos be removed between wood siding and wood framing?</p> <p>3. How will the aggressive air sampling be performed in the building following decontamination?</p> <p>4. How will electrical utilities and wiring be protected from power washing?</p> <p>5. Is over spray an issue and how will it be addressed?</p> <p>6. Materials cleaned and removed for storage must be returned to the structure.</p> <p>7. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.</p>

Task 9 - Large Lumber Warehouse	2.1.9	2-11	<ol style="list-style-type: none">1. How will the aggressive air sampling be performed in the building following decontamination?2. Define full building containment for this structure and how will it be implemented?3. Can asbestos be removed between wood siding and wood framing?4. Are interior and/or exterior walls removed to complete decontamination?5. How will electrical utilities and wiring be protected from power washing?6. Materials cleaned and removed for storage must be returned to the structure.7. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.
Task 10 - Operating Planer Shop Decontamination	2.1.10	2-12	<ol style="list-style-type: none">1. Is power washing acceptable practice with machinery present?2. How will electrical utilities and wiring be protected from power washing?3. Can asbestos be removed between wood siding and wood framing? <i>Tim Siding & r/siding-framing</i>4. Is the access and egress being provided <i>now</i> for operation of the planer conducive with the soil removal operation?5. Is the entire structure and the planer room to be decontaminated at the same time?6. Will the encapsulation of the building impact the planer operations taking place?7. Is the dust generated by the planer going to impact air monitoring equipment and results? What plans are being addressed to deal with this issue?8. Materials cleaned and removed for storage must be returned to the structure.9. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.

Task 11 - Small Shed Decontamination	2.1.11	2-12	<p>1. How will the aggressive air sampling be performed in the building following decontamination?</p> <p>2. Define full building containment for this structure and how will it be implemented?</p> <p>3. Can asbestos be removed between wood siding and wood framing?</p> <p>4. Are interior and/or exterior walls removed to complete decontamination?</p> <p>5. How will electrical utilities and wiring be protected from power washing?</p> <p>6. Address soil removal issues and methodology for clean the sump.</p> <p>7. Materials cleaned and removed for storage must be returned to the structure</p> <p>8. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.</p>
Task 12 - Demolished Shed Decontamination	2.1.12	2-13	<p>1. What type of sample shall be taken from the concrete slab and what type of analysis shall be performed?</p> <p>2. Access and egress, in addition to establishment and maintaining clean rooms, need to be addressed since these activities are taking place prior to removal of contaminated soils around the structures.</p>
Task 13 - Transportation To and Disposal at Mine	2.1.13	2-13	<p>1. What type of trucks are to be employed to transport materials?</p> <p>2. What type of liners and thickness are to be used?</p> <p>3. Where are the trucks to be lined prior to loading?</p> <p>4. Where are the trucks being tarped?</p> <p>5. Dozers do not provide a very high degree of compaction and are designed not to compact materials. <i>5-1000 ft</i></p> <p>6. Is daily cover available? If daily cover is to be used, identify the source and analytical results verifying that the material is clean.</p> <p>7. Sampling protocols and sample number shall be provided.</p>

Task 14 - Surface Excavation	2.1.14	2-13	<ol style="list-style-type: none"> 1. Explain the basis used to do decontamination of building prior to soil excavation. Clean rooms, access and egress need to be maintained during all decontamination of structures and contents of materials inside structures. 2. The excavation zone on Figure 2-1 does not reflect the zone of soil removal in the SOW. Address this issue. 3. Clearly specify dust control equipment to be activated so as not to re-contaminate clean buildings during soil removal and loading operations. 4. Is PLM analysis adequate due to the physical nature of the this specific asbestos fiber? TEM analysis is specified in the SOW. 5. OU-1 has suspected areas of asbestos contamination greater than 12 inches. How will the removal method proposed not cross contaminate areas scrapped clean when the equipment tracks over that material which is located at greater depths?
Task 15 - Backfill	2.1.15	2-14	<ol style="list-style-type: none"> 1. What is the ASTM classification of the common fill and top soil to be used as backfill? 2. Specify aggregate size and type to be used for the construction of roads and parking areas. 3. What is the source of the materials to be used for backfill and aggregates at the site? 4. How many samples and specify the test method to verify all imported materials are clean. 5. The SOW requires 12 inches of removal with a potential for subareas to exceed this initial 12 lift. Depth of backfill is defined as 6 to 12 inches with 6 inches of either top soil or gravel for a total of 12 inches in all areas. The SOW requires a minimum of 12 inches of backfill with an additional lift of either gravel or top soil. Address this discrepancy. 6. Address the compaction requirements in the SOW. Provide test methods and number and frequency of tests to be performed. 7. Address the maximum depth of loose lift material to be place prior to compaction efforts being performed. 8. Provide plan view of all new roads and parking areas to be constructed.

Address issues
regarding
recontamination
of clean buildings

Task 18 - Demobilization	2.1.18	2-14	1. All materials removed from structures and the site for storage must be returned to their respective and original locations. Discuss procedure to ensure all materials inventoried are returned to their respective and original locations.
Air Monitoring Requirements <i>possible plan is to make alteration to D.L.T.R.s Please provide information on their use, timing of data return. Discuss limitations regarding fiber size & type identification</i>	2.2	2-18	<p>1. Specify TEM analysis.</p> <p>2. Provide Appendix B which is referenced to contain text of EPA's Sampling and Quality Assurance Project Plan.</p> <p>3. Is PCM analysis adequate due to the physical nature of the this specific asbestos-fiber? TEM analysis is specified in the SOW.</p> <p>4. Provide information with regard to the specific air monitors to be utilized at the site. This includes any pump for perimeter, personnel, egress, clean room and any other location pumps are to be used as in accordance with the SOW.</p> <p>5. Provide plan view with locations of proposed sites for air monitoring.</p> <p>6. Provide schematics of proposed layout of decontamination, clean room and egress with proposed air monitoring locations.</p> <p>7. How many total number of pumps are on site? This should include the number available for pumps for back-up due to pump failures, non-calibration and non-charged. Tabulate pump numbers with pump assignment.</p> <p>8. Address pump rates, hours of operation, recharge requirements, calibration cycles required due to operation.</p> <p>9. Provide and discuss laboratory to be used for analysis. This shall include method of transport and turnaround time for sample results.</p> <p>10. Discuss limits of acceptable readings based on laboratory analytical results and the real time air monitoring.</p>
Background Air Sampling	2.2.1	2-17	1. SOW specifies TEM analysis.
Ambient Daily Air Monitoring	2.2.2	2-17	1. SOW specifies TEM analysis.
Ambient Final Clearance Air Monitoring	2.2.4	2-18	1. Clearly define sampling techniques to be implemented for final clearance of buildings.

Chemical Hazards	2.3.4.1	2-20	1. ACandS's H&S Plan shall be reviewed by EPA and State prior to work.
Air Monitoring	2.3.8	2-21	1. This section states that air monitoring shall be conducted per SMS 43. SMS 43 is listed as utility clearances & isolation in Paragraph 2.3.4.2 Physical Hazards. Is this correct? 2. ARM is not in the list of acronyms. What is ARM 17.74 and please provide as reference in work plan.
Decontamination	2.3.8	2-21	1. Provide all filter media and discharge requirements for all and any filtered water to be discharged on or off the site.
Emergency Response	2.3.8	2-22	1. Define SMS 4B.
Access to Information	2.4.8	2-25	1. Grace may have results for 2 days prior to providing the results to the EPA as long as the EPA receives the sample results within the time frames specified in the SOW. 2. Note that an exception to Number 1 above shall be the daily ambient air samples that are to be reported to EPA within 24 hours of collection as per SOW. This may not be the only exception with regard to the remediation at OU-3. 3. Background air samples to be provided to EPA at time of mobilization. 4. Building Final Closure Sample results are to be provided to EPA within 1 week of completion of decontamination. 5. Post excavation sample results are to be provided to EPA within 1 week of completion of decontamination.
Documentation of Compliance with Other Laws	2.4.10	2-26	1. Include ARAR's and references in this work plan. Grace is responsible for encompassing and addressing all ARAR's either included or not included in the SOW.

General Comments		<p>2. Provide a table outlining the deliverable for the entire project. These shall include but not limited to weekly reports, sample results and all plans. This out line shall include but not limited to:</p> <ul style="list-style-type: none">•description of deliverable,•frequency of deliverable,•time allowed for preparation of deliverable'•recipients of documents. <p>2. Provide a table for sampling results that are to be provided for all activities at OU-1. This table shall include, but not be limited to the sample results of the background air, decontamination activities including clean room and exhaust fan samples, the perimeter air monitoring, soil sampling, final decontamination samples and egress samples. This table shall provide, but not be limited to the following information:</p> <ul style="list-style-type: none">•laboratory,•sampling location,•sample type (soil, water, air),•sample purpose (duplicate, final, split, re-sample)•date sampled•date received,•test method,•detection limit,•reporting limit,•regulatory limit for OU-1,•sample result, <p>3. Provide current photos.</p> <p>4. Additional figures to provide shall include, but not be limited to the following:</p> <ul style="list-style-type: none">• post closure plan view of OU-3(include roads and parking),• erosion placement,• contractor command post layout with location of decon pad, temporary lanes for access and egress for planer shop, shower facilities, vehicle and equipment parking, temporary storage areas, hot zone, and decontamination area,•air monitoring locations•vehicle traffic patter with sign locations, flagman locations, decon pad location, truck lining location, truck tarp location.
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DRAFT

WORK PLAN
EXPORT PLANT REMOVAL ACTION
LIBBY, MONTANA

Prepared for:

WR Grace and Company
6401 Poplar Avenue, Suite 301
Memphis, Tennessee 38119-4840

Prepared by:

URS Radian
Construction Services Division
707 17th Street, Suite 3400
Denver, Colorado 80202

6 June 2000

Reviewed and Approved By:

Jim Stout, Senior Scientist

Date

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List of Acronyms

AHAs	Activity Hazard Analyses
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Standards
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	<i>Code of Federal Regulations</i>
CIH	Certified Industrial Hygienist
EPA	United States Environmental Protection Agency
ft	foot/feet
HEPA	High-efficiency particulate air
HSP	Health and Safety Plan
NCP	National Contingency Plan
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
OU	Operable unit
PCM	Phase contrast microscopy
PjM	Project Manager
PPE	Personal protective equipment
QA/QC	Quality assurance/quality control
RI/FS	Remedial Investigation/Feasibility Study
SAP	Sampling and Analysis Plan
SMS	Safety Management Standards
SOW	Scope of Work
SSO	Construction Supervisor/Site Safety Officer
TWA	Time-Weighted Average
UAO	Unilateral Administrative Order
USACE	United States Army Corps of Engineers
USC	<i>United States Code</i>

1.0 Introduction

This Draft Work Plan describes activities associated with a removal action at the Export Plant in Libby, Montana, and related disposal activities at the former vermiculite mine. Specifically, this Plan specifies actions that will be conducted to mitigate asbestos contamination at the Export Plant previously owned and operated by WR Grace and Co. (Grace) in Libby, Montana. The asbestos contamination is suspected to be the result of historical vermiculite mining, storing, processing, and transportation conducted on and around the property.

The scope of the work is based on the Unilateral Administrative Order (UAO) for Removal Response Activities prepared by the United States Environmental Protection Agency (EPA) on May 23, 2000, Region 8, Docket No. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-8-2000-10. The UAO contains a Scope of Work (SOW) prepared by the EPA with the assistance of the Environmental Engineering Division (DTS-33) of the John A. Volpe National Transportation Systems Center (Volpe Center).

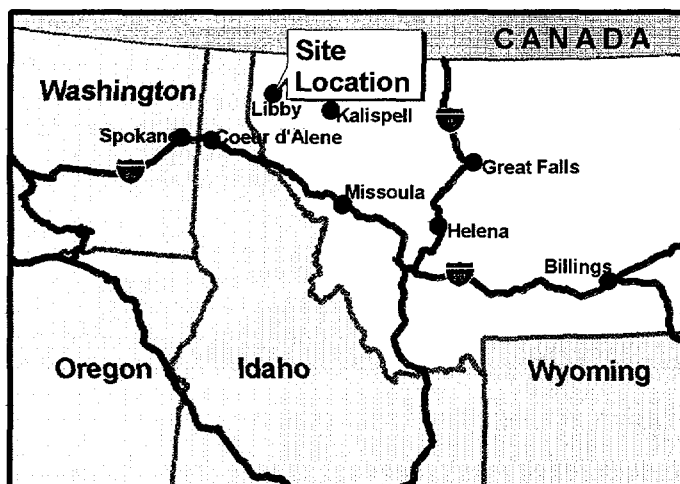
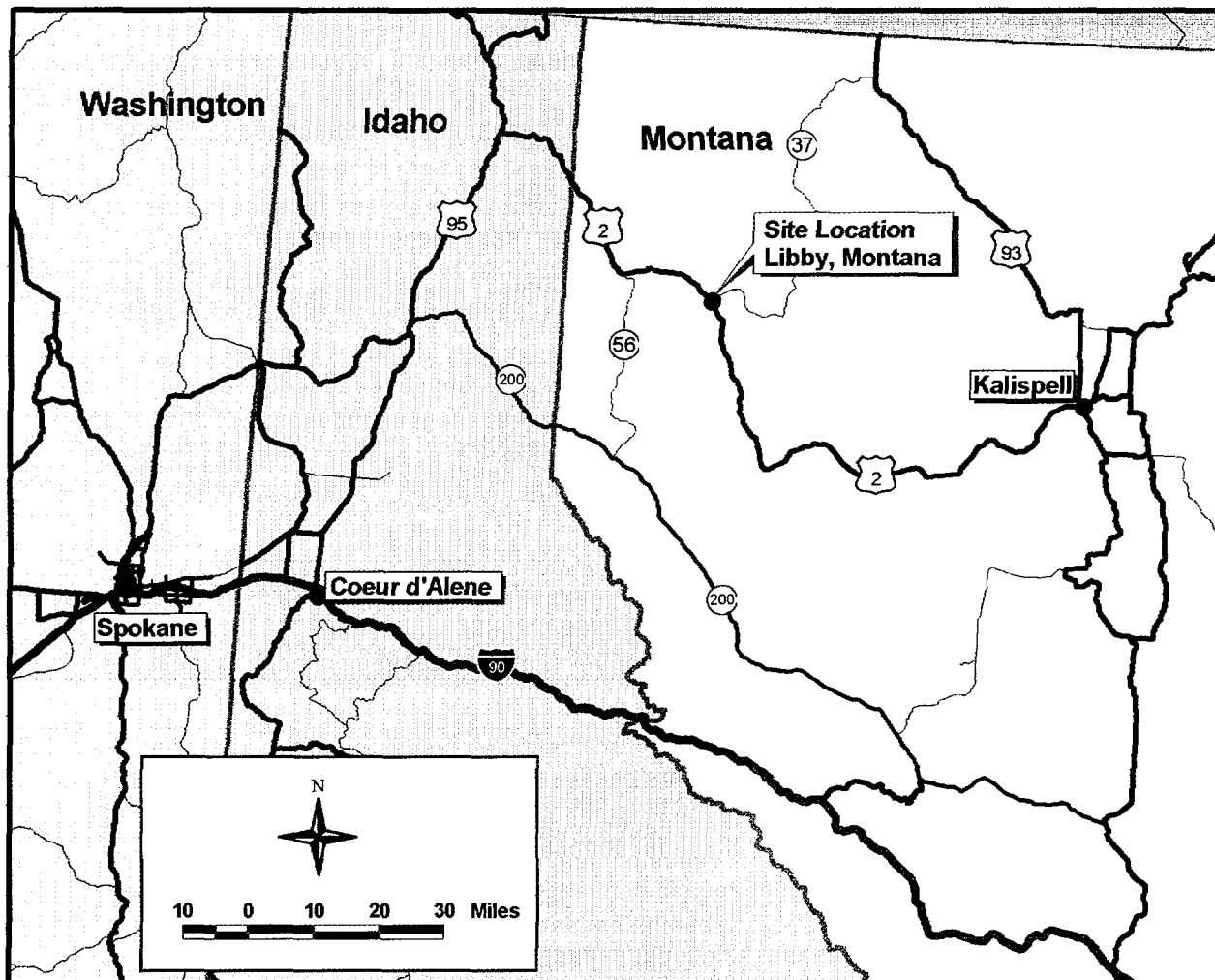
The primary activities required by the UAO as described in the incorporated SOW are:

- Temporary relocation of the on-site business at the Export Plant;
- Preparation of Site property (e.g., power, access roads, etc.);
- Cleaning (abatement) of contaminated buildings/contents, and structures;
- Excavation of contaminated soil, debris and vermiculite;
- Preparation of disposal location at the mine;
- Transportation and disposal of waste; and
- Property restoration at the Export Site.

Each of these activities will be described in detail in Section 2.0 of this Draft Work Plan.

1.1 Site Location and Description of Property

Libby, Montana, is located in the northwestern part of the state approximately 25 miles from the Idaho border to the west and 40 miles from the Canadian border to the north (**Figure 1-1**). The Site is located within Sections 3 and 10, T.30N1, R.31W. of the Libby Quadrangle in Lincoln County. The primary road through Libby is State Highway 2. Libby sits on the



**Figure 1-1. Site Map
Libby, Montana**

FILE NAME
libby.apr

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6 JUNE 2000

DR. BY
JLC

Kootenai River and has a population of approximately 13,800 residents. The local economy is supported primarily by logging and mining operations in the surrounding area.

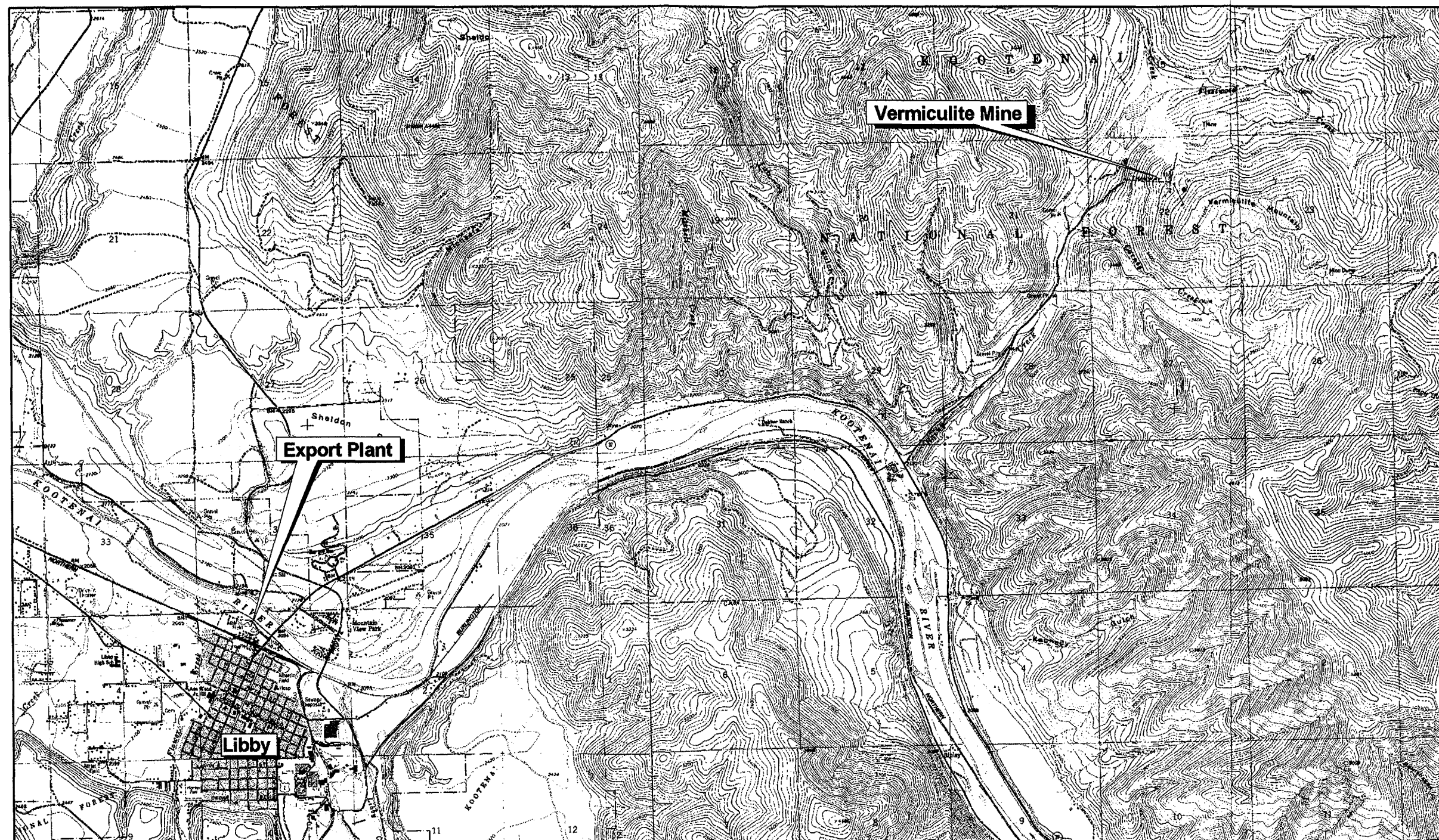
13,800 within 4-5 mile radius?

The Export Plant, which will also be referred to as Operable Unit 01 (OU 01) is located on the northern edge of Libby (**Figure 1-2**). The Export Plant occupies between 11 and 12 acre adjacent to Highway 37 where it crosses the Kootenai River. It is bounded on the north by the Town of Libby athletic fields and Kootenai River; on the south by the Burlington Northern Railroad track; on the east by Highway 37; and on the west by State of Montana Property. OU 01 is owned by the City of Libby, Montana and is leased to a retail lumberyard and building material supplier. Five buildings are located on the property and are currently used to house finished and rough lumber, a milling operation, and a retail center.

The buildings on the site are basically wood construction with wood and/or corrugated steel siding. They include the Pole Barn, Old Vermiculite Storage Warehouse, Large Lumber Warehouse, Operating Planer Shop, and Small Shed. The property also contains the footprint of a demolished shed. The locations of each of these buildings are shown on **Figure 1-3**. The dimensions of each of these buildings are indicated below.

Designation	Description	Dimension	Area (ft ²)
Pole Barn	Wood framed open-faced structure with corrugated steel siding and roof. Built on steel reinforced concrete slab.	66 ft. x 120 ft.	7,920
Vermiculite Storage Warehouse	Wood framed with wood siding and roof covered with corrugated steel. Built on concrete slab with concrete piers supporting beams and girders.	40 ft. x 100 ft.	4,000
Lumber Warehouse	Wood framed with corrugated metal siding on interior and exterior walls. Roof is corrugated metal on wood joists. Build on concrete slab.	50 ft. x 60 ft.	3,000
Planer Shop	Wood framed with wood siding. Two rooms, used for lumber storage and planing. Roof corrugated steel. Built on concrete slab with concrete piers.	70 ft. x 80 ft.	5,600
Small Shed	Wood frame with wood siding and roof. Corrugated steel roof. Concrete slab including a "filled" 6 ft. x 6 ft. sump.	36 ft. x 50 ft.	1,800

Much of the site is covered by a crushed aggregate base material placed and compacted into access roads and parking areas to provide adequate base during wet weather. Very little, if any, vegetation exists in the vicinity of the Export Plant, except for the baseball fields located on



0.5 0 0.5 1 Miles

Reference: U.S. Geological Survey,
Libby and Vermiculite Mountain Quadrangles, Montana
7.5 Minute Series Topographic Maps

Figure 1-2. Site Locations

FILE NAME
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5 JUNE 2000

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Color Map(s)

The following maps contain color that does not appear in the scanned images.

To view the actual images please contact the Superfund Record Center at (303) 312-6473.

Color Chart(s)

The following chart(s) contains color
that does not appear on the scanned
image(s).



**Asbestos Levels
in Soil (by PLM)**

Surface Samples

- ND
- <1%
- 2%
- 3%

Depth Samples

- ND
- <1%
- 2%
- 5%

Blind Samples

- ⊕ ND
- ⊕ <1%

Proposed Location of
Sprung Structure



NOT TO SCALE

Reference:
EPA IAG No.: DWI17953800-01-0

**Figure 1-3. Export Plant
Location of
Structures**

FILE NAME	DATE	DR. BY
libby apr	6 JUNE 2000	JLC

the northwest half of the property. Access roads, telephone service, water (including a hydrant), sewer systems, and electrical power are available.

The former vermiculite mine is located approximately 7 miles northeast of Libby. Access to the mine is via Highway 37 and Rainey Creek Road. This access road is primarily compacted gravel.

1.2 Facility History

Gold prospectors in the Libby, Montana, area in the late 1800s discovered the mineral vermiculite on a mountain which became known as Vermiculite Mountain. The unique characteristics of the mineral, including its expansive properties when heated, flame resistance, and moisture retention capacity, led to commercial mining operations near Libby, which began in 1923 by Mr. Edward Alley. The primary use of the vermiculite was for insulation and soil amendments, and the processed material was known by the name Zonolite.

In 1939 the Universal Zonolite Insulation Company was formed in Libby, and production from the mine approached 100 thousand tons per year. In 1948 Universal Zonolite Insulation Company changed its name to the Zonolite Company. Production by the Zonolite Company reached 150 thousand tons per year in 1950. Throughout the 1950s, monitoring and dust control measures were implemented by Zonolite to reduce worker exposure to silica and asbestos.

The vermiculite was strip mined using conventional equipment and processed in an on-site dry mill to remove waste rock and overburden. The processed ore was trucked down Rainey Creek Road to a screening plant that separated the milled ore into five sizes, depending on its intended use. The material was then shipped to various cities around the country for direct inclusion into products or for expansion (also known as exfoliation) prior to use in products. The vermiculite ore contains amphibole asbestos fibers of the tremolite-actinolite-richterite-winchite solid solution series (amphibole asbestos). This type of asbestos is not typically used commercially.

Grace purchased the Zonolite Company in 1963. In 1974, Grace completed construction and began operations at a new "wet" mill facility in Libby, significantly reducing the generation of dust during vermiculite processing. Expansion operations at the Export Plant ceased prior to 1981 and the area was used only for packaging and exporting milled material after that time. Operations at the mine and processing facilities ceased in 1990, and reclamation work was initiated. In 1994, the mine site was sold to Kootenai Development Company.

Remove or comments regarding dust control as they are unrelated to the removal action work at the export plant

1.3 Recent Regulatory Developments

In response to local concerns and media reports of asbestos-contaminated vermiculite, EPA Region 8 sent an Emergency Response Team to Libby in November 1999. In December of 1999, the EPA collected approximately 700 samples from the mine site, processing plants (including the Screening Plant and Export Plant), and residences. Samples included air, soil, dust, and insulation. Additional samples were collected in March and April 2000. Some 2,000 samples have been collected by the EPA to date.

Soil sample results released in late March indicated the presence of asbestos in areas throughout the processing plants. In a few hot spots the level of asbestos in the soil samples exceeded two percent.

← provide information
Source.

The EPA prepared and sent Grace a Draft Administrative Order on Consent (AOC) for Removal Action dated 25 February 2000. The Order was prepared under the authority of the CERCLA with EPA Region 8 taking the lead for coordinating, overseeing, and enforcing requirements of the AOC. This AOC required cleanup activities at two sites, the Export Plant and the Screening Plant Site.

Following additional discussions and negotiations with Grace, the EPA issued the UAO on in late May 23, 2000. The UAO is specific to the Export Plant Site. EPA has assumed responsibility for removal actions at the Screening Plant Site. The UAO includes a Scope of Work and "planned" schedule of activities. This Draft Work Plan has been prepared in response to the requirements of the UAO.

1.4 Work Plan Organization

This Draft Work Plan has been prepared by Radian International LLC, a URS company (URS), under the direction of Grace in response to the UAO. Section 2.0 of this Work Plan provides the technical work scope planned for abating asbestos-contaminated areas at the Export Plant and disposal of contaminated material at the former mine. Subsection 2.1 presents the removal action technical specifications, 2.2 describes the Sampling and Analytical Plan, 2.3 presents the Health and Safety Plan, and Section 2.4 contains document control requirements. Sections 3.0 and 4.0 present the project Organization and Schedule, respectively. Appendices will be prepared subsequent to the submittal of this Work Plan. The Appendices will provide detailed Health and Safety procedures and sampling and analytical QA/QC specifications.

Approval of the plans is required prior to the completion of the Export Site

After mobilization to the site and the completion of the Export Site and mine survey and appraisal activities, additional detailed plans will be amended to this Work Plan in Appendix C including:

- Traffic Control Plan;
- Dust Control Plan;
- Erosion Control Plan;
- Building Decontamination Plan;
- Appraisal and Personal Property Valuation Plan; and
- Disposal Site Closure and Institutional Control Plan.

Submittal of these plans at this time does not allow adequate and appropriate time for review prior to procurement and implementation.

Because of time limitations specified in the UAO for OU01 and Grace's desire to conduct this removal action in the most expeditious manner possible, the Work Plan format does not necessarily follow strict CERCLA formatting for removal action Work Plans. However, the draft Work Plan describes procedures that will be followed for completing all of the removal action requirements specified in the UAO and the referenced EPA SOW. Once completed, the appendices will provide even more detail related to sampling/analytical QA/QC, Health and Safety, and specific operations.

Additional Plans to Address:

1. Test Pit Excavation Plan
2. Building Decontamination Feasibility Plan
3. Equipment & Personnel Decontamination Plan
4. Site Control Plan
5. QA/QC Plan for Backfill & Compaction Requirements

2.0 Scope of Work

This Draft Work Plan includes the detailed definition of scope, schedule, deliverables, and organization to implement the required decontamination of buildings, removal of asbestos contaminated soil, debris, and vermiculite, and restoration at the Libby Asbestos Site Export Plant, OU01. The Plan also includes transportation activities and placement of removed asbestos contaminated materials and soil at the former mine location. The Draft Work Plan was prepared in accordance with the Unilateral Administrative Order and associated SOW prepared by the EPA Region 8 (Docket No. CERCLA-8-2000-10) dated May 23, 2000.

The UAO specifies seven main activities that must be completed as part of the Removal Action:

- Temporary relocation of the on-site business at the Export Plant;
- Preparation of Site property (e.g. power, access roads, etc.);
- Cleaning (abatement) of contaminated buildings/contents, and structures;
- Excavation of contaminated soil, debris and vermiculite;
- Preparation of disposal location at the mine;
- Transportation and disposal of waste; and
- Property restoration.

The approach developed by URS utilizes a work breakdown structure (WBS) with 17 individual tasks which will be described in detail in Section 2.1. The WBS includes all of the work defined by the EPA as part of the UAO. The work will be performed by URS Construction Services Division, West Region, headquartered in Denver, Colorado. The selected certified asbestos subcontractor will be ACandS, with independent air monitoring support provided by NOVA. Additional subcontractor support will be sought as necessary, including a licensed surveyor and property appraiser. Local suppliers of technical expertise will be used whenever feasible.

2.1 Removal Action Technical Approach

This section describes the activities that will be conducted to complete the removal action. The section is divided into 17 individual tasks.

Third bullet is based on if USEPA approves decontamination based on the Building Decontamination Feasibility Plan.

2.1.1 Task 1 - Project Planning

Prior to initiation of the removal action, specific plans will be finalized for EPA approval and included within this Work Plan.

Sampling and Analytical Plan - Appendix A and Section 2.2

The types of samples that will be collected and analyzed to support the removal action include background air samples, daily ambient air samples, health and safety air samples, final clearance air samples, and soil verification samples. Section 2.2 describes the scope of the planned sampling program. Prior to initiation of the removal action, a detail Sampling and Analytical Plan will be completed and attached as Appendix A to this Work Plan.

URS plans to use the services of an independent monitoring firm, NOVA, to collect and analyze the background, daily ambient, and final building clearance samples. URS will collect and analyze samples for health and safety purposes. URS will coordinate with the EPA regarding the collection and analysis of soil verification samples. It is anticipated that URS will collect the samples and utilize the services of an outside laboratory such as RJ Lee for soil analysis. The number of soil verification samples collected will be agreed upon during consultation with the EPA OSC.

Health and Safety Plan - Appendix B and Section 2.3

The HSP will be developed and implemented in accordance with the Occupational Safety and Health Administration (OSHA) Standard 29 Code of Federal Regulations (CFR) Part 1910 and Part 1926, and all relevant federal and state OSHA requirements. The HSP will be prepared by a URS Certified Industrial Hygienist (CIH). It will contain sections on equipment and personnel decontamination for URS operations. A specific HSP will also be prepared by the abatement subcontractor ACandS for their activities. The ACandS Plan will be reviewed and approved by the URS CIH.

The Health and Safety Plan (HSP) will contain specific procedures to be implemented to restrict access to the work areas and to establish work zones around individual buildings and the soil excavation areas. A specific section of the plan will address the required 8 to 10 days per month of planer operation to ensure adequate protection of the tenant personnel while the removal action and asbestos abatement proceeds.

Traffic Control Plan - Appendix C

Access to the Export Plant will be restricted to personnel associated with the Removal Action. A designated parking area will be maintained for vehicles. The primary traffic control activities will be associated with the road leading to the mine disposal site. URS will utilize a dedicated Traffic Control Foreman and two laborers (flagging) stationed near the mine site and at the base of Rainey Creek Road to control traffic on this stretch of roadway. It is anticipated that the primary traffic, in addition to trucks hauling waste from the Export Plant, will be logging trucks.

The Foreman will have responsibility for insuring communication between the waste trucks hauling material from the Export Plant and other traffic on this road. Flagmen will be utilized to restrict traffic as necessary when trucks are inbound or outbound. The flagmen will use radios to maintain communications with each other, the trucks, and the Foreman.

Additional traffic control procedures will be documented in writing as an addendum to this Work Plan during mobilization activities. URS will coordinate with local traffic control officials as appropriate to minimize truck traffic impacts on the local community and to avoid conflicts with summer highway improvement projects.

Dust Control Plan - Appendix C

A water truck will be dedicated to dust control maintenance on Rainey Creek Road and the mine site once disposal activities are initiated. Coordination of the water truck will be the responsibility of the Traffic Control Foreman. Current plans involve using the hydrant at the Export Plant for water supply. A temporary water storage tank will also be installed at the mine site and fed by the mine site well for use in filling water trucks. Magnesium chloride liquid will be considered for use as a dust suppressant. Alternative water supplies will be evaluated during mobilization activities.

Air monitoring and visual observations will be conducted on a routine basis to verify that dust control measures are adequate at both the Export Plant, the mine disposal site, and along the road in between.

During excavation activities at the Export Plant, dust suppression will be accomplished using either a dedicated water truck or hoses connected directly to a hydrant at the site. The project team will work with city officials and the EPA to establish meteorological parameters (wind speed and direction) during which excavation activities may be performed.

Traffic Control Plan
should address location/distances,
types of signs to be used
for traffic control. DOT/County
requirements shall be followed at
a minimum. Signs to include
Flagman Ahead, Trucks Entering, etc.

Provide Plan + Figure for
Vehicle Route from time
Loaded to Load discharged at
mine with return route.

Hydrant is within zone of
excavation.

Weather Station at site?

Erosion Control Plan - Appendix C

Erosion control measures will include the use of berms, hay bales, diversion ditches, silt fencing, etc. to minimize both runoff and runoff of precipitation during the removal action. Special attention will be paid to insuring that runoff into the Kootenai River is prevented. Because of the relatively level ground in the vicinity in Export Plant, erosion is not anticipated to be significant during the cleanup. Any soil that is staged on site during excavation work will be covered with plastic. Additional specific erosion control procedures and locations of barriers will be documented and included as an addendum to this Plan during mobilization activities, following the initial site survey.

Building Decontamination Plan - Appendix C

Each of the buildings at the site will be cleaned in a sequential manner. URS will establish an exclusion zone for each building at the Export Plant during decontamination of the contents of that building. Decontamination will involve the use of high efficiency particulate air (HEPA) vacuum cleaners and/or wetted rags. Equipment and materials will pass through the decontamination zone for cleaning prior to transport to the Sprung structure for storage. The decon area will be enclosed and will have decon equipment and a negative air system. Water used will be filtered prior to being released to the environment. After each item is cleaned it will be passed to personnel in the clean zone and subsequently transported and stored in temporary storage (Sprung structure).

All cleaned items will be visually inspected and certified clean prior to staging in the Sprung structure. Inspection will be by an asbestos inspector certified in Montana. Inspection results will be documented and signed by the inspector.

Items which have been determined to be non-salvageable will be removed from the structures and staged in the contaminated materials storage area or transported directly to the mine disposal site.

After the contents of each building have been removed and cleaned, a gross decontamination of the building will be performed. Asbestos insulation, dust, and vermiculite in walls and supports will be removed, bagged, containerized, and staged in the contaminated materials storage area. It will be readied for transportation and disposed at the mine site when adequate quantities have been accrued to maximize transport efficiency. Gross decontamination will involve the use of HEPA vacuums and wetted rags/mops. The work will be conducted so

1. When & where will perform site survey?
2. State/local approval of erosion plan?
3. Runoff onto clean areas is also major issue of concern.

- Water Filter media and filter requirements.
- Are there cleaning rooms within each Building?
- Provide plan view schematic of decon layout.
- How are materials transported to sprung building if done prior to soil clean-up?
- Why no swipe sample AC of items?

When is inventory done to track items?

Is insurance being carried on items while in storage?

Due to the nature of the building materials and types of construction, where HEPA vacuums will be successful in decontamination of buildings

Double wrap for transport

that no visible dust emissions are observed. Once each structure is cleaned, verification procedures will involve visual inspections and air sampling.

Appraisal and Property Valuation Plan – Appendix C

A personal property inventory and appraisal will be conducted prior to the removal action. The selected appraiser will be responsible for preparing a brief plan for this task.

Disposal Site Closure and Institutional Control Plan – Appendix C and Section 2.1.13

Following completion of the removal action, URS and Grace will develop a plan for the closure and possible institutional controls at the mine disposal site. Such plans may include a cover, grading operations, erosion control measures, access restrictions, warning signs, deed restrictions, and possibly monitoring. Once completed, this Plan will be included in Appendix C to the Work Plan.

2.1.2 Task 2 - Project Management

The Project Management Team will include an on-site Project Manager that will have primary responsibility for interfacing with Grace, the regulating community, and community interest groups. The project manager will ensure that the work is accomplished safely and in accordance with the requirements of the Work Plan and UAO. The project manager will also be responsible for the quality of work, providing personnel and environmental health and safety, documenting all activities and, tracking costs and schedule.

The project manager will be supported by a home office Program Manager, a Project Control Specialist, an Engineering Coordinator, a Construction Manager, and a Field Superintendent. URS will also maintain an onsite QC/Document Control Specialist and a Traffic Operations Foreman. Weekly progress reports will be prepared for submittal to the regulating agencies. All project documentation will be maintained on site with copies sent or faxed to the home office in Denver.

Sample results to be sent to State & EPA within 2 days of receipt of results.

As part of the management task, URS will identify and acquire any local, state, and/or federal permits that will be applicable to this effort. URS will also review the Applicable Relevant and Appropriate Standards (ARARs) in detail with the regulatory representatives to ensure that the work is accomplished according to current regulatory requirements.

2.1.3 Task 3 - Mobilization

The mobilization task will involve moving URS personnel and equipment to the Export Plant, as well as coordinating the mobilization of subcontractors and local suppliers. URS anticipates setting up an on-site office trailer and utilizing an existing office space downtown. The downtown office will be used by the Document Control Specialist to maintain the project files in locked, flame-proof file cabinets. Electrical power will be brought to the office trailer. The trailer will be equipped with lights and office machines including a copier, faxes, personal computers, bottled water, and a refrigerator. A room in the trailer will serve as a conference room for weekly meetings with subcontractors and EPA representatives. Storage of health and safety equipment and other supplies will be provided in separate lockable Connex.

Portable toilets will be leased through a local supplier. The toilets will be set up outside of an exclusion area so that personnel will be required to pass through a decontamination zone prior to accessing the facilities. The number of toilet seats and urinals will be determined in accordance with 29 CFR 1910.120(n)(3)(1). There will also be a minimum of three with hand washing facilities. Toilets will be emptied and cleaned on a routine basis under a contract with a local vendor.

2.1.4 Task 4 - Site Preparation

Under this task, URS will establish traffic patterns, parking, and equipment laydown areas to optimize safety and efficiency. Exclusion and decontamination zones will be established in accordance with the HSP (Appendix B). Staging areas will be established, fenced, and posted as appropriate. Security fencing will be set up for equipment staging areas and materials storage areas as required. Runon/runoff controls will also be put in place.

At a minimum, the following "areas" will be established during site preparation activities:

- Construction equipment storage area;
- Contaminated materials storage area for asbestos contaminated articles that will be disposed. Area will be lined with 20-mil plastic and surrounded by a berm constructed of sand bags;
- Hazardous materials storage area (for storing materials such as fuel, oils, chemicals). This area will be lined with 20-mil thick plastic and surrounded by a berm constructed of sand bags for spill control;
- Recyclable materials storage area (for items that can be salvaged, recycled, and/or reused);

Temporary Lumber Storage Area
to be accessible by tenant.

- Air samplers installed in all storage areas?

- Personnel decontamination facilities for asbestos operations - per the specifications in the HSP. This area will include showers, eyewash stations, personal protective equipment (PPE) storage, tables, chairs, lockers (as needed), and possibly a washer and dryer;
- Equipment decontamination facilities. One facility will be constructed at the Export Plant and one at the mine disposal site. Each pad will be plastic-lined, covered with a minimum of 1 inch of gravel, and drained toward a sump for water collection. Collected water will be filtered before release; and
- Structural decontamination facilities will consist of drains around the perimeter of each building slab to contain decontamination water. Plastic sheeting will be used as necessary on the exterior walls of the structures to contain overspray and to mitigate dust.

- Scope requires 20mil liner for equipment decon.
- 1 inch of gravel cover?
- Over spray at equipment decon may be issue as at buildings.
- Building decontamination on page 2-4 does not discuss issues in last bullet.

Personnel decontamination facilities for use during asbestos abatement will be provided so that workers can decontaminate themselves at the end of each shift. The facilities will be set up in 40-foot trailers. Both male and female facilities will be provided. Each facility will be equipped with a clean room, shower, and dirty room. Hot and cold running water will be provided. A negative air system will prevent asbestos fibers from entering the clean room. Shower water will be filtered to remove asbestos prior to discharge to the environment. Workers will remove their clothing in the dirty room, step into the shower room, and then enter the clean room. This facility will be available for project personnel as well as federal and state agency personnel.

- Task 3 Page 2-6 does not discuss mobilization of decon trailers.
- How many trailers?

Equipment decontamination facilities will be constructed at both the Export Plant and the mine disposal site. Any heavy equipment will be required to be decontaminated prior to leaving the site. The decon pad will be established with a water collection system. All visible material/soil will be washed off of each vehicle while parked on the pad. Collected water will be filtered before discharge. The pads will also be used for the inspection and decontamination (if necessary) of trucks as they leave the export plant or mine site during debris hauling and disposal. The location of the pads will be determined during development of the Traffic Control Plan.

- The traffic control plan on page 2-3 does not discuss the traffic issues and control of the pads. No mention of additional plan to be submitted is made.

2.1.5 Task 5 - Site Support Services

Site support services includes all those activities associated with providing equipment, survey and appraisal as defined below.

Equipment

Under this task URS will lease necessary equipment and set up services to support the removal action. Leased equipment will include copy machines, desks, chairs, file cabinets, fax machine(s), bottled water, meteorological stations, etc. URS will also establish cell phone service, hard-wired phone service, electricity, field radio service, toilet maintenance and dumpster service, etc. As part of this task, URS will also lease heavy equipment from local vendors as available, including an excavator, backhoe, dozer, hydraulic hammer, fork lift, rubber tire loader, field trucks, and pumps and hoses. Local laborers will be hired to support the project as necessary, including equipment operators and mechanics.

Survey

A detailed property line survey and topographic survey will be prepared by a land surveyor registered in the state of Montana. Physical features of the export plant and mine site will be located during the survey, including all structures. The information will be made available in hard copy and AutoCAD. The surveys will be used to establish air monitoring locations, limits of work areas, and prepare grading and erosion plans for operations and restoration.

Appraisal

In accordance with the Appraisal and Personal Property Validation Plan presented in Appendix C, an inventory of items belonging to the current tenant(s) at the Export Plant will be made by a certified appraiser. EPA will provide photo documentation in support of this effort. Items will be placed into the following three categories:

- No value - The owner agrees that these items have no value and does not want any replacement. These items shall be disposed of as asbestos containing material at the former mine site.
- Of value and can be decontaminated - These articles shall be thoroughly decontaminated by washing followed by visual inspection prior to their relocation to the temporary storage facility (Sprung structure).
- Of value but not compatible with decontamination procedures and more economical to dispose - These items shall either be replaced or the owner shall be provided with fair replacement value compensation established by the appraiser. The original item shall be disposed of as asbestos containing material at the mine site.

Additionally, the needs of the road contractor temporarily on-site will be evaluated for relocation elsewhere on-site in an uncontaminated area. Final relocation will be coordinated with the contractor, city, and the EPA.

*Is this in reference to
lumber company or road company?*

2.1.6 Task 6 - Furnish/Install/Operate and Maintain Sprung Structure

Grace will purchase and install a self supporting Sprung structure (or equivalent) approximately 85 feet by 230 feet. The structure will be erected north of the site on the baseball fields, outside of the contaminated area as shown on Figure 2.1. The structure will include anchors, exhaust fans, two sliding cargo doors, and multiple personnel doors. A compacted, gravel base will be prepared for the structure to sit on. Electrical utilities will be provided for internal lighting and ventilation.

The structure will be used to stage "cleaned" material from the lumber planing operations. The interior of the structure will be set up so that materials are stored in accordance with the desires of the planing operation owner. A "clean" corridor will be established between the decontamination facilities at the export plant and the structure. It is anticipated that this structure will be donated to the City of Libby when the removal action at the Export Plant is complete.

*How will clean corridor be
established & materials used?*

2.1.7 Task 7 - Pole Barn (Building 1) Decontamination

The Pole Barn (Building 1) will be the first building cleaned by URS to remove residual asbestos fibers. The building is approximately 66 feet by 120 feet and is used to store lumber. All work at the site will be conducted in accordance with the HSP and QA/QC Plan.

Prior to conducting any work at the site, URS will compile an inventory and appraisal of the quantity and quality of the materials stored in the building. Contents will be identified for either cleaning or disposal. In addition, a building inspection will be conducted to identify the presence of other hazards (e.g., chemical, electrical, mechanical) that may be present in the building. Once the appraisal, inventory, and building inspection have been completed, asbestos certified personnel will remove and clean the materials that are stored in the building as described above.

*How will the aggressive
air sampling in the Buildings
be performed?*

After the articles have been removed for reuse or disposal at the mine site, the building will be vacuumed, power washed and cleaned by certified asbestos personnel. Following cleaning, air samples will be collected and sent to the laboratory for analysis. In the event that the analysis indicates that more cleaning is required, asbestos certified personnel will re-clean the

*What is intent for decontamination
between corrugated metal roof and
underlying asphalt roof?*

Equipment

Under this task URS will lease necessary equipment and set up services to support the removal action. Leased equipment will include copy machines, desks, chairs, file cabinets, fax machine(s), bottled water, meteorological stations, etc. URS will also establish cell phone service, hard-wired phone service, electricity, field radio service, toilet maintenance and dumpster service, etc. As part of this task, URS will also lease heavy equipment from local vendors as available, including an excavator, backhoe, dozer, hydraulic hammer, fork lift, rubber tire loader, field trucks, and pumps and hoses. Local laborers will be hired to support the project as necessary, including equipment operators and mechanics.

Survey

A detailed property line survey and topographic survey will be prepared by a land surveyor registered in the state of Montana. Physical features of the export plant and mine site will be located during the survey, including all structures. The information will be made available in hard copy and AutoCAD. The surveys will be used to establish air monitoring locations, limits of work areas, and prepare grading and erosion plans for operations and restoration.

Appraisal

In accordance with the Appraisal and Personal Property Validation Plan presented in Appendix C, an inventory of items belonging to the current tenant(s) at the Export Plant will be made by a certified appraiser. EPA will provide photo documentation in support of this effort. Items will be placed into the following three categories:

- No value - The owner agrees that these items have no value and does not want any replacement. These items shall be disposed of as asbestos containing material at the former mine site.
- Of value and can be decontaminated - These articles shall be thoroughly decontaminated by washing followed by visual inspection prior to their relocation to the temporary storage facility (Sprung structure).
- Of value but not compatible with decontamination procedures and more economical to dispose - These items shall either be replaced or the owner shall be provided with fair replacement value compensation established by the appraiser. The original item shall be disposed of as asbestos containing material at the mine site.

building. Following re-cleaning, samples will be collected again and sent to the laboratory for analysis. This process will be repeated until the building is certified to be asbestos free.

2.1.8 Task 8 - Old Vermiculite Storage Warehouse Decontamination

The Old Vermiculite Storage Building (Building 2) will be cleaned by URS to remove residual asbestos fibers. The building is approximately 40 feet by 100 feet and is presently used to store fiberglass and wood materials. All work at the site will be conducted in accordance with the HSP and the QA/QC Plan.

Prior to conducting any work at the site, URS will compile an inventory and appraisal of the quantity and quality of the articles stored in the building. Contents will be identified for either cleaning or disposal. In addition, a building inspection will be conducted to identify the presence of other hazards (e.g., chemical, electrical, mechanical) that may be present in the building. Once the inventory appraisal and building inspection have been completed, asbestos certified personnel will clean and remove the fiberglass and wood materials that are stored in the building as described previously. The salvageable cleaned materials will be removed from the building, placed on pallets (as needed), and transferred to the Sprung structure for interim covered storage.

After the salvageable materials have been removed, the building will be vacuumed, power washed and cleaned by certified asbestos personnel. Following cleaning, air samples will be collected and sent to the laboratory for analysis. In the event that the analysis indicates that more cleaning is required, asbestos certified personnel will again vacuum, power wash, and clean the building. Following cleaning, samples will be collected again and sent to the laboratory for analysis. This process will be repeated until the building is certified to be asbestos free. Once the building has been cleaned, the removed materials will be returned to the building.

2.1.9 Task 9 - Large Lumber Warehouse

The Large Lumber Warehouse (Building 3) will be cleaned by URS to remove residual asbestos fibers. The building is approximately 50 feet by 60 feet and is presently used to store lumber. All work at the site will be conducted in accordance with the HSP and QA/QC Plan.

Prior to conducting any work at the site, URS will compile an inventory and appraisal of the quantity and quality of the materials stored in the building. In addition, a building inspection will be conducted to identify the presence of other hazards (e.g., chemical, electrical, mechanical) that may be present in the building. Once the inventory and building inspection

- What is decon procedure between metal roof and wooden roof?

- Can all asbestos be removed between wood siding and wood framing?

- What is air sampling methodology?
- How many

have been completed, asbestos certified personnel will clean and remove the salvageable wood that is stored in the building as described previously. The salvageable cleaned materials will be removed from the building, placed on pallets (as needed), and transferred to the Sprung Structure for interim covered storage. Non-salvageable material will be transported to the mine site for disposal.

After the materials have been removed, the building will be vacuumed, power washed and cleaned by certified asbestos personnel. Full building containment will be required because of the double walled sides and roof filled with vermiculite. Following cleaning, air samples will be collected and sent to the laboratory for analysis. In the event that the analysis indicates that more cleaning is required, asbestos certified personnel will again vacuum, power wash, and clean the building. Following cleaning, samples will be collected again and sent to the laboratory for analysis. This process will be repeated until the building is certified to be asbestos free. Once the building has been cleaned, the removed materials will be returned to the building.

2.1.10 Task 10 - Operating Planer Shop Decontamination

The Operating Planer Shop Building (Building 4), including the main building and attached planer shed, will be cleaned by URS to remove residual asbestos fibers. The building is approximately 70 feet by 80 feet and is presently used for storage and planing operations. URS will coordinate with the equipment owners to ensure that planing operations can be terminated for the duration of the cleaning operations. All work at the site will be conducted in accordance with the HSP and QA/QC Plan.

Prior to conducting any work at the site, URS will compile an inventory and an appraisal of the quantity and quality of the materials stored in the building. In addition, a building inspections will be conducted to identify the presence of other hazards (e.g., chemical, electrical, mechanical) that may be present in the building. Once the inventory and building inspections have been completed, asbestos certified personnel will clean and remove the salvageable material that is stored in the building as described previously. The cleaned materials will be removed from the building, placed on pallets (as needed), and transferred to the Sprung Structure for interim covered storage. Non-salvageable material will be removed and transported to the mine site for disposal.

Large equipment (the planer) will be locked out/tagged out and cleaned in place. The planer and the shed will be decontaminated and the shed will be isolated from the rest of the building using 2-by-4s and 10-mil plastic sheeting to construct walls. Thus, the cleanliness of

*Define full building containment
for this structure and how
will it be implemented?*

- Define sampling methodology
for this building?*
- Are interior and/or exterior
walls removed?*

this section will be maintained and planer operations can resume if necessary after complete building cleaning and restrictions described below.

After the salvageable materials have been removed and cleaned, and other materials transported to the mine site for disposal, the building and remaining machinery will be vacuumed, power washed, or hand cleaned by certified asbestos personnel. Full building containment will be required because of the double walls and ceiling filled with vermiculite. Following cleaning, air samples will be collected and sent to the laboratory for analysis. In the event that the analysis indicates that more cleaning is required, asbestos certified personnel will again vacuum, wash, and clean the building and/or equipment. Following cleaning, samples will be collected again and sent to the laboratory for analysis. This process will be repeated until the building and contents are certified to be asbestos free. Once the building has been cleaned, a restricted zone, separated from asbestos cleaning activities, will be set up to allow planing operations to be resumed for 8 to 10 days per month. Fencing will be used to designate a clean zone for workers, access, egress, and operation areas.

2.1.11 Task 11 - Small Shed Decontamination

The Small Shed (Building 5) will be cleaned by URS to remove residual asbestos fibers. The building is approximately 36 feet by 50 feet, and it is presently used for miscellaneous storage. All work at the site will be conducted in accordance with the HSP and QA/QC Plan.

Prior to conducting any work at the site, URS will compile an inventory and appraisal of the quantity and quality of the materials stored in the building. In addition, a building inspection will be conducted to identify the presence of other hazards (e.g., chemical, electrical, mechanical) that may be present in the building. Once the inventory and building inspection have been completed, asbestos certified personnel will clean and/or remove the contents of the building as described previously. The salvageable cleaned materials will be removed from the building, placed on pallets (as needed), and transferred to the Sprung Structure for interim covered storage. Non-salvageable articles will be transported directly to the mine disposal site.

After the materials have been removed, the building will be vacuumed, power washed and cleaned by certified asbestos personnel. Following cleaning, air samples will be collected and sent to the laboratory for analysis. In the event that the analysis indicates that more cleaning is required, asbestos certified personnel will again vacuum, power wash, and clean the building. Following cleaning, samples will be collected again and sent to the laboratory for analysis. This process will be repeated until the building is certified to be asbestos free.

- Is power washing acceptable for ~~on the inside~~ practice since machinery is present? What about Electricity issues (Power).
- See Task 7, 8, 9 comments
- Is this access, egress conducive with soil removal activities?
- Return removed materials.

- See comments for Task 10
- Address soil in sump issues and methodology for clean-up.
- Return removed materials.

2.1.12 Task 12 - Demolished Shed Decontamination

The concrete foundation from a historic building (Building 6) will be cleaned by URS. It is estimated that the approximate size of the slab is 30 feet by 50 feet. All work at the site will be conducted in accordance with the HSP and QA/QC Plan.

Following cleaning of the foundation, samples will be collected from the slab and sent to the laboratory. In the event that the laboratory analysis indicates that additional cleaning is required, the slab will be recleaned. This process will be repeated until the slab has been shown to be asbestos free. The slab will be left in place pending a decision regarding whether to excavate and dispose of it at the mine site.

2.1.13 Task 13 – Transportation to and Disposal at Mine Site

Pending an agreement between Grace, the site owner, and the state, all contaminated debris and soil will be disposed at the abandoned asbestos mine on Rainey Creek Road. Transportation will be by tarp covered and lined trucks. Truck traffic will be regulated by the Traffic Foreman and flagging personnel. A dozer will be operated at the mine site to spread and compact the debris. The material will be graded to a reasonable smooth surface with minimal grade to minimize erosion. Excavated soil will be placed over the top of the deposited debris as much as possible. Daily cover may be placed over deposited material to prevent wind dispersion. Cover will be obtained from nearby tailings at the mine.

*What type of trucks?
What Type of liners?
~~Are drivers in PPE?~~
Where are trucks lined?
Where are trucks torped?*

State of Montana Bills of Lading will be prepared by URS for each truckload of waste leaving the Export Plant. Loading of trucks will be done using strict dust control measures. Drivers will be asbestos trained and wear appropriate PPE specified in the HSP during loading and unloading. All trucks will be thoroughly washed and inspected prior to leaving the Export Plant and before leaving the mine disposal site.

*Dozers do not provide a very high degree of compaction and are designed not to compact material.
- Is daily cover available?*

Final restoration of the mine disposal area will include rough grading to a flat or gently sloping grade as appropriate to prevent erosion. Hay bales and/or silt fencing may be left in place as part of the restoration relating to this work.

2.1.14 Task 14 - Surface Excavation

In parallel, once sufficient areas are available and not conflicting with the Export Plant cleaning and building decontamination, soil removal will begin. The site will be initially cleared and grubbed of vegetation. Erosion control measures will be implemented to prevent any runoff

If deconing buildings, why not do soil removal 1st to allow clean access to buildings to be deconed?

to surrounding areas, and dust control equipment will be activated so as not to recontaminate cleaned buildings. Twelve inches of soil will be removed from the entire "contaminated" property (approximately 11 acres) as shown on **Figure 2-1**. Confirmation samples will be collected at specified locations according to the Sampling and Analytical Plan and analyzed using polarized light microscopy (PLM). If contamination is found in some areas, an additional 6 inches of soil will be removed up to a maximum excavation depth of 18 inches. All areas of straight vermiculite will be excavated and removed.

Excavation will be conducted using a dozer to scrape the soil into "windrows". The windrows will then be loaded into trucks using a front-end loader. The excavation and truck loading operations will be conducted under moist conditions to control dust generation. Water will be applied as necessary. Near building foundations, an excavator, backhoe, and/or hand digging will be employed to remove soil up to the foundations. No soil staging is anticipated.

2.1.15 Task 15 - Backfill and Compaction

Restoration will consist of backfilling across the entire excavated area with a 6 or 12-inch layer of common fill material to bring the grade to within 6-inches of the original surveyed grade. The final 6-inch layer will be filled with either gravel or top soil as appropriate based on the original surface conditions. URS estimates that approximately half of the site will be finished with an additional 6-inches of compacted gravel fill suitable for vehicle traffic. Areas that are not be used for roads or parking will be finished to grade with topsoil and hydroseeded. The area will be graded to match pre-excavation grades. Grading will be in accordance with a final grading plan for erosion control.

2.1.16 Task 16 - Demobilization

Before removing all staff, equipment, and materials brought to Libby to perform the remediation, URS will conduct an exit survey with Grace and the EPA to ensure that all aspects of the specified remediation have been completed. As a result of this survey, a closeout checklist will be developed for immediate action by URS. Following completion of all of the actions on the checklist, URS will demobilize from the site. The Sprung structure and materials within will be left in place.

2.1.17 Task 17 - Final Report

URS will prepare a final report following demobilization from the site. The report will comply with the requirements of Section 300.165 of the National Contingency Plan (NCP) entitled "On-Scene Coordinator (OSC) Reports." The reporting process will take full advantage

What is meant by dust control equipment?

Is PLM analysis adequate due to the nature of this specific asbestos fiber?

There are suspected areas of contamination at greater depths than 12 inches. How will the removal method not cross contaminate scraped areas?

-What is ASTM classification of common fill materials, gravel, Top Soil?

-How is source of common fill, gravel, topsoil?

-How many samples & Test Method to determine clean?

-Scope requires 12 inches of common fill and an additional 6 inches of topsoil or gravel.

-Compaction requirement for pads, parking & roads defined.

-All removed material from building & placed in Sprung structure must be returned to point of origin.

-Need to discuss inventory check off procedure.

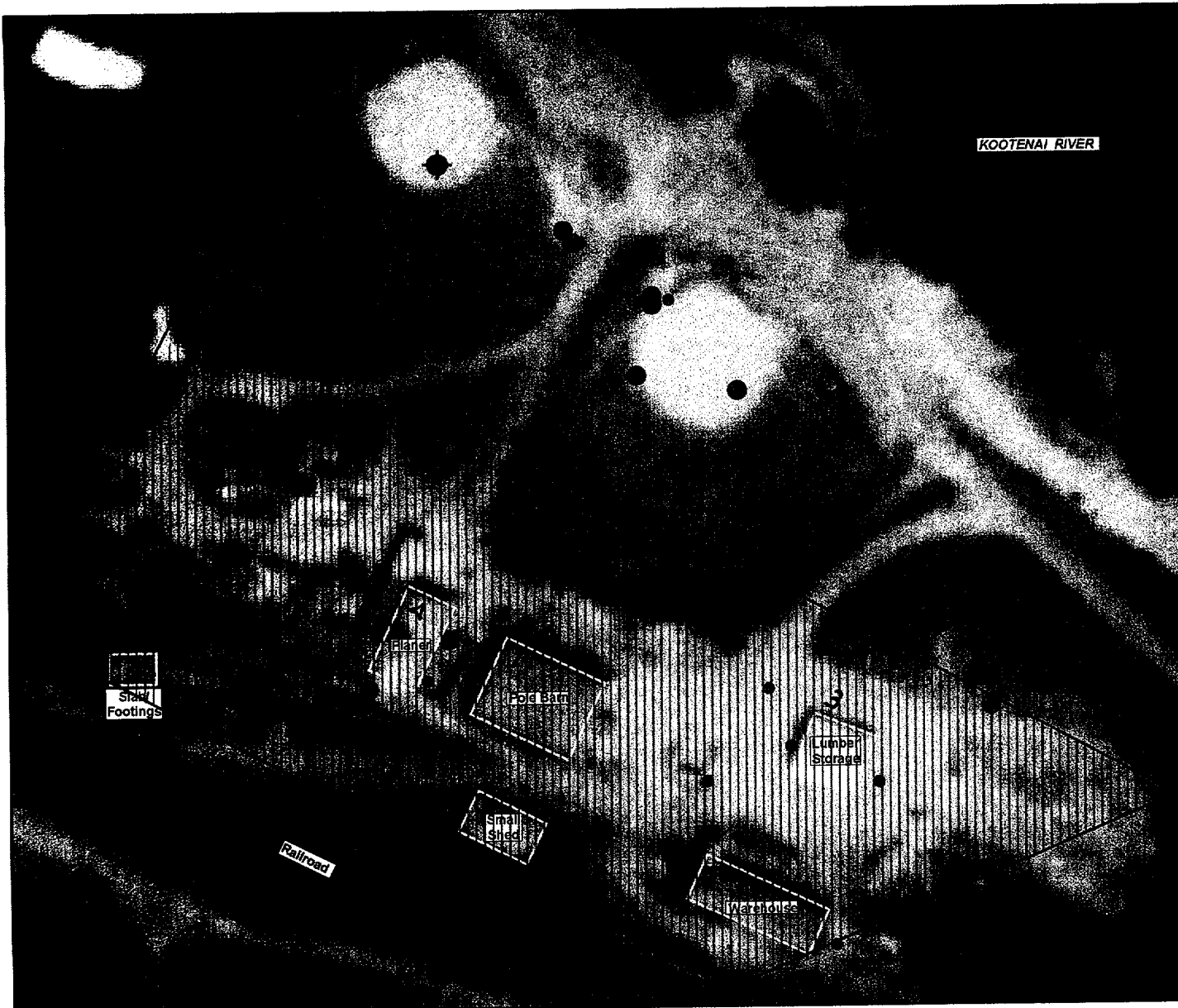
Provide Plan View of roads & parking to be restored?

-Lifts used
compaction Equip

Color Chart(s)

The following chart(s) contains color
that does not appear on the scanned
image(s).

Excavation area does not
match scope of work
Figure 2.1



**Asbestos Levels
in Soil (by PLM)**

Surface Samples

- ND
- <1%
- 2%
- 3%

Depth Samples

- ND
- <1%
- 2%
- 5%

Blind Samples

- ⊕ ND
- ⊕ <1%



Excavation Area



NOT TO SCALE

Reference:
EPA IAG No.: DWI17953800-01-0

**Figure 2-1. Export Plant
Approximate Area
to be Excavated**

FILE NAME
libby.apr

DATE
6 JUNE 2000

DR. BY
JLC

of the ongoing documentation, filing, and reporting processes conducted during the implementation of the remediation and will include as a basic outline the following:

- A statement by Grace of costs incurred in complying with the UAO;
- A listing of quantities and types of materials removed off site and disposed at the mine;
- A listing of materials relocated to the Sprung structure;
- A presentation of the analytical results of all sampling and analyses performed; and
- Accompanying appendices containing all relevant documentation generated during the remediation (e.g., manifests, bills of lading, daily site reports).

The final report will be certified by our URS Project Manager who will supervise and direct the preparation of the report. Following review and comment by Grace, and incorporation of their comments by URS, the report will be submitted to EPA.

2.2 Air Monitoring Requirements

Air monitoring shall be conducted to determine airborne dust and asbestos fiber levels during the removal actions. Perimeter air monitoring shall be performed by an independent air monitoring firm, NOVA. Air monitoring will be performed prior to the initiation of removal actions to determine background levels of dust and fibers in the air. Air monitoring will be performed during removal actions and demolition activities to ensure that dust and fibers are not being released from the work areas during removal actions, to determine the appropriate level of respiratory protection for removal action workers, and to document dust and fiber levels following the removal actions.

Asbestos air monitoring will be performed by collecting samples for analysis by Phase Contrast Microscopy (PCM). A battery powered pump will be used to conduct continuous air monitoring on the perimeter of OU01 to determine total airborne fibers (expressed as fibers per cc). Air samples that will be analyzed by PCM will be collected in accordance with EPA's Sampling and Quality Assurance Project Plan dated January 4, 2000 (see Appendix B for the text portion of this document). Air samples shall be analyzed in accordance with ISO 10312 counting rules unless otherwise specified by EPA. Sample results analyzed by PCM will be expressed as asbestos fibers per cubic centimeter.

check
↓

*-How many sampling points?
-Need TEM analysis*

*-No Appendix B
-Any sample point @ landfill?*

*What monitors (specific) are
to be used?*

2.2.1 Background Air Samples

The air monitoring consulting firm will collect background air samples at OU01 to determine background airborne asbestos fiber levels prior to the start of the removal action. The consulting firm will collect air samples for PCM analysis at identical locations on OU01 on two different days to determine background airborne asbestos fiber levels. The background air samples will be compared to the final clearance samples to ensure that airborne asbestos fiber levels at the completion of the removal action are equal to or lower than the asbestos fiber levels present prior to initiating the removal action. Sample results shall be reported to the EPA during site mobilization.

Need TEM analysis

2.2.2 Ambient Daily Air Monitoring

The air monitoring firm will conduct daily air monitoring during the removal action at OU01 to ensure that airborne dust and fibers are not being released during the removal action. The air monitoring firm will collect air samples along the perimeter of OU01, in clean rooms, and at the exhaust of negative air machines during the active work day. Sample results shall be reported to the EPA within 24 hours of collection.

The air monitoring firm will place a minimum of six battery powered pumps along fixed locations along the perimeter of OU01. The pumps will provide continuous monitoring of the total mass of airborne particulates on OU01's perimeter. The air monitoring firm will also collect air samples for PCM analyses at these same fixed locations on the perimeter of the project to determine the concentration of airborne asbestos fibers. The air monitoring firm will analyze the data collected from the pumps and the PCM analyses to establish trends between airborne particulate levels and asbestos levels. After review of Grace's initial data submittals, EPA will determine if an adequate correlation exists between particulate measurements and asbestos concentrations. EPA will determine whether total particulate measurements can be substituted for asbestos PCM analysis.

TEM Analysis

- What is commercial name of pumps to be used?*
- How many backup pumps at site?*
- Are what are total # pumps needed for charging calibration etc.*

Air monitoring points shall also be established at the boundary of any exclusion zone to ensure the adequacy of the boundary. The air monitoring firm shall designate these locations as part of the HSP.

*pump rates, hours operation
sample result turnaround time*

The air monitoring firm will also collect air samples in the clean rooms of decontamination chambers, at the exhaust of negative air machines, and other appropriate areas on OU01. The purpose of these samples is to document that clean rooms are actually clean and that the negative air machines are not exhausting asbestos fibers. For all ambient samples

collected pursuant to this section, sample results shall be reported to the EPA within 24 hours of collection.

2.2.3 Health and Safety Air Samples

The asbestos subcontractor will collect daily personal air samples on its workers to document compliance with OSHA's Asbestos Standard for the Construction Industry (29 CFR Part 1926.1101).

The asbestos subcontractor will collect time-weighted average (TWA) and excursion samples from ten percent (or a minimum of two) of the workers each day that removal action work is performed. The TWA samples will be started at the beginning of each work day and will be turned off at the conclusion of each work day. TWAs will be adjusted using the Brief and Scala Method for workdays that last longer than eight hours. Thirty-minute excursion samples will be collected from workers during work activities that are expected to generate the highest fiber levels.

The results of the TWA and excursion samples will be compared to the Asbestos in Construction Standard to determine if the level of respiratory protection worn by removal action workers is adequate.

2.2.4 Ambient Final Clearance Air Samples

After each building or structure on OU01 has been decontaminated, and is to be left in place, final clearance samples must be collected in accordance with the detailed sampling and analysis plan attached as Appendix A. Sample results shall be reported to EPA within one week of completion of the decontamination.

At the conclusion of the removal action for OU01, the air monitoring firm will collect final perimeter clearance samples. The air samples will be collected and analyzed by PCM. The samples will be collected at the same locations as the background samples collected prior to the initiation of the removal action. These samples will be compared to the background air samples to ensure that airborne asbestos fiber levels at the completion of the removal action are equal to or lower than the background fiber levels. Sample results shall be reported to EPA within one week of the removal of all contaminated material from the export site.

*Clearly define sampling technique
for final clearance of Buildings*

2.3 Health and Safety Procedures

The Contractor will submit to EPA for review and approval a Project H&S manual. The manual will contain the Contractor HSP, prepared by the Project CIH; the asbestos abatement plan, prepared by the asbestos abatement subcontractor; as well as required safety and health certifications and documentation.

The Contractor HSP will be prepared in accordance with 29 CFR 1926.65 and will address requirements in 1926.1101 for asbestos contaminated soil removal. Montana Occupational Health Act and Safety Act requirements will also be addressed. The HSP will be prepared using the standard URS/Radian HSP template supplemented by Activity Hazard Analyses. The HSP will contain the following:

2.3.1 Health and Safety Roles and Responsibilities

Roles and Responsibilities for the URS Project CIH, Project Manager (PjM), Construction Supervisor/Site Safety Officer (SSO), Traffic Control Foreman, and site personnel will be defined. The Project CIH will be responsible for safety and health oversight and technical support to the project. The Project CIH will prepare or review and approve all work plans and associated health and safety plans. The PjM will oversee project work including asbestos abatement activity. The Construction Supervisor/ SSO will oversee daily field work and implementation of the HSP. The Traffic Control Foreman will be responsible for implementation of the Traffic Control Plan.

2.3.2 Training

Site personnel will be trained in accordance with 29 CFR 1926.65 and 1926.1101. Only trained and certified asbestos abatement personnel will conduct asbestos abatement work.

2.3.3 Medical Surveillance

Site personnel will receive medical evaluations in accordance with 29 CFR 1926.65 and 1926.1101. Respirator fit tests will be administered to personnel engaged in removal activities.

2.3.4 Hazard Assessment

Hazard assessment at the Libby Site will consist of the identification and assessment of two basic categories of hazard; chemical and physical as discussed above.

2.3.4.1 Chemical Hazards

Air samples at the Export Plant have shown up to 0.0013 f/cc asbestos. Soil samples at the Export Plant have shown up to 10% by weight asbestos. ACandS will submit an asbestos abatement plan to the PjM and Project CIH for review and approval prior to work. The plan will address site control/containment, personal protective equipment (PPE), air monitoring, decontamination, and emergency response for asbestos abatement.

AC and S's HSP is to be reviewed by EPA prior to work

2.3.4.2 Physical Hazards

The HSP will contain General Safe Work Practices to address physical hazards. Activity Hazard Analyses (AHAs) will be prepared for each of the anticipated work tasks which will describe the task, associated hazards, and controls. The AHA will be supplemented by Task Hazard Analysis Cards for short-term non-routine work. Safety hazards will be addressed by URS standard operating procedures contained in our Safety Management Standards (SMS). Relevant SMSs are expected to include:

- SMS 4 - Accessing Industrial Sites;
- SMS 7 - Aerial Lifts;
- SMS 45 - Back Injury Prevention;
- SMS 38 - Cranes;
- SMS 12 - Electrical Safety;
- SMS 40 - Fall Protection;
- SMS 14 - Fire Prevention;
- SMS 16 - Hand Tools and Portable Equipment;
- SMS 2 - Hazard Communication;
- SMS 17 - Hazardous Waste Operations;
- SMS 18 - Heat Stress;
- SMS 19 - Heavy Equipment Operation;
- SMS 20 - Hot Work;
- SMS 21 - Housekeeping;
- SMS 23 - Lockout/Tagout;
- SMS 26 - Noise and Hearing Conservation;
- SMS 28 - Portable Ladders;
- SMS 41 - Rigging;
- SMS 30 - Sanitation;
- SMS 43 - Utility Clearance and Isolation; and
- SMS 32 - Work Zone Traffic Control.

2.3.5 Personal Protective Equipment

PPE for asbestos abatement will be addressed in the subcontractor's asbestos abatement plan. Level B or C PPE is anticipated, depending upon air sampling results. PPE for other removal activities will be described in the AHA. The anticipated level of protection is Level C

and D depending on air sampling results. PPE programmatic requirements are addressed in SMS 29 on Personal Protective Equipment and SMS 42 on Respiratory Protection.

2.3.6 Air Monitoring

The HSP will contain an Air Monitoring Plan which will address asbestos and total dust sampling requirements during removal actions. Air monitoring will be conducted per SMS 43. Asbestos air monitoring during removal actions will be conducted in accordance with ARM 17.74. Air monitoring will include background air sampling prior to the start of work, personal breathing zone air samples, area monitoring during removal activities, and final clearance sampling following removal.

Direct reading total dust monitors will also be employed to evaluate airborne dust levels in the removal and waste disposal areas and downwind at the areas' exclusion zone boundary. This monitoring is intended to evaluate the effectiveness of dust control measures. Total dust Action Levels for additional dust suppression or suspension of site activities will be in the HSP.

2.3.7 Site Control

The Export Plant activity area will be fenced and asbestos warning signs posted during removal activities. The mine disposal site activity areas will be fenced similarly and signed. Hazardous waste site work zones, including an Exclusion Zone and Contamination Reduction Zone, will be designated using flagging. The Support Zone will be outside the fenceline. The HSP will contain procedures for controlling access to the Export Plant and mine disposal site. Policy will be to require HAZWOP and asbestos training and medical surveillance and respirator fit test documentation unless approved in writing by the SSO and Project CIH. All site personnel will comply with PPE requirements established in the HSP, which, at a minimum, will include hardhat, steel-toed boots, safety glasses, and traffic safety vests around mobile equipment. All personnel will receive an initial site safety orientation from the SSO. Visitors will be accompanied at all times by the SSO or other Contractor personnel designated by the SSO. The SSO has authority to remove any personnel from the work area for non-compliance with safety and health requirements.

2.3.8 Decontamination

A negative-pressure decontamination trailer will be provided for personnel decontamination. The trailer will contain a clean area, showers, and dirty area separated by air locks. All personnel performing abatement activities will be required to shower before leaving the site. Heavy equipment will be decontaminated on a pad using high-pressure washers. A tire

SMS-43 is listed as
Utility Clearance & Isolation
in Paragraph 2.3.4.2
Physical Hazards.
Is this correct?

ARM is not in list of
acronyms. What is ARM 17.74?
Please provide a reference.

wash will be provided for haul trucks. Wastewater will be collected and filtered before discharge.

Filter Requirements

2.3.9 Emergency Response

The HSP will contain a section covering emergency response to medical, fire, and hazardous substance release addressing protection of workers, emergency responders, and the public. The HSP will identify local emergency response resources and contacts. Prior to the start of work the SSO and Project CIH will contact local emergency response agencies and discuss site work and potential emergency scenarios. Site emergencies will be reported according to SMS 49. Hazardous substance releases will be verbally reported to EPA's OSC and the National Response Center immediately followed by a written report with three days.

Define SMS 49

2.3.10 Project Documentation

The Project Health and Safety Manual will contain required safety and health documentation. The seven day progress report will include significant safety and health incidents, air monitoring results, and safety and health issues related to upcoming work. The Final Report will include a summary of safety and health items from the Progress Reports.

2.4 Document Control

In response to EPA's UAO, Grace will perform or have performed the following project and document control activities associated with their cleanup at the Libby site.

2.4.1 Work Plan

Within five business days after the effective date of the UAO, Grace shall submit to EPA for approval a draft Work Plan for performing the removal action set forth above. The draft Work Plan shall, at a minimum, incorporate all requirements of the Scope of Work, attached to the UAO. It shall provide a description of, and an expeditious schedule for, the action required by the UAO. This schedule shall, at a minimum, meet the deadlines established in the Export Plant Schedule of Work.

The EPA, in consultation with the state, may approve, disapprove, require revisions to, or modify the draft Work Plan. If the EPA requires revisions, Grace shall submit a revised draft Work Plan within three days of receipt of the EPA's notification of the required revisions. Grace shall implement the Work Plan as finally approved in writing by EPA in accordance with the Export Plant Schedule of Work. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under the UAO. Grace

shall notify the EPA and the state at least 48 hours prior to performing any Export Plant Work pursuant to the EPA-approved Work Plan. Grace shall not commence or undertake any removal actions at the Export Plant without prior EPA approval. If Grace's revisions of the draft Work Plan do not meet the EPA's approval, the EPA may, in consultation with the state, unilaterally modify the Work Plan for approval.

2.4.2 Sampling and Analysis Plan – Appendix A

As discussed earlier in Section 2.1 of this draft Work Plan, Grace will prepare and submit for EPA and state a review and comment prior to the start of removal actions at the site. A Sampling and Analysis Plan (SAP) which will become **Appendix A** of the Work Plan. The SAP will ensure that all sampling and analyses performed pursuant to the EPA's UAO shall conform to the EPA's direction, approval and guidance regarding sampling, QA/QC, data validation, and chain of custody procedures. Grace shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with the appropriate EPA guidance. Grace shall follow the following documents, as appropriate, as guidance for QA/QC and sampling: Quality Assurance/Quality Control Guidance for Removal Activities; Sampling QA/QC Plan and Data Validation Procedures, Office of Solid Waste and Emergency Response (OSWER) Directive Number 9360.4-01; and Environmental Response Team Standard Operating Procedures, OSWER Directive Numbers 9360.4-02 through 9360.4-08.

Upon request by the EPA, Grace shall have its laboratory(ies) analyze samples submitted by the EPA for quality-assurance monitoring. Grace shall provide to the EPA and the state the QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis.

Grace shall provide to the EPA and the state, or their authorized representatives, split and/or duplicate samples of any samples collected by Grace while performing actions under the UAO. Grace shall notify the EPA and the state not less than two days in advance of any sample collection activity. The EPA and the state shall have the right to take any additional samples that they deem necessary.

2.4.3 Health and Safety Plan – Appendix B

As discussed earlier in Section 2.3 of this draft work Plan, Grace will prepare and submit for EPA and state review and comment prior to the start of intrusive activity within the affected zones of the site, a plan that ensures the protection of the public health and safety, including that of its on-site workers, during performance of Export Plant work under the UAO. This plan shall

be prepared in accordance with EPA's standard Operating Safety Guide (November 1984, updated July 1988). In addition, the plan shall comply with all current applicable OSHA regulations: Hazardous Waste Operations and Emergency Response found at 29 CFR Part 1926. Grace shall incorporate all changes to the plan recommended by the EPA and implement the plan during the pendency of the removal action.

2.4.4 Project Execution Plans – Appendix C

Prior to initiation of removal action activities, Grace will be required to submit, at a minimum, the following plans for review and approval by the EPA. These plans shall be incorporated into the overall final Work Plan required for this removal action.

- Traffic Control Plan;
- Dust Control Plan (for both the OU01 property and the former mine site, if used for disposal);
- Erosion Control Plan;
- Building Decontamination Plan;
- Appraisal and Personal Property Valuation Plan; and
- Disposal Site Closure and Institutional Control Plan.

2.4.5 Weekly Reporting

Grace shall submit a written progress report to the EPA and to the state concerning actions undertaken pursuant to the UAO every seventh day after the date of receipt of the EPA's approval of the Work Plan until termination of the UAO, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered; analytical data received during the reporting period; and the developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

2.4.6 Conveyance of Real Property

Grace shall, at least 30 days prior to the conveyance of any interest in real property at the Export Plant, give written notice of the UAO to the transferee and written notice to the EPA and the state of the proposed conveyance, including the name and address of the transferee. The party conveying such an interest shall require that the transferee comply with Section VI, Paragraph 4 of the UAO - Access to Property and Information.

2.4.7 Final Report

Within fifteen days after completion of all removal actions required under the UAO, Grace shall submit for the EPA review and approval a final report summarizing the actions taken to comply with the UAO. This report shall also be sent to the state. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled OSC Reports and with OSWER Directive No. 9360.3-03 - Removal Response Reporting. The final report shall include a good faith estimate of total costs or statement of actual costs incurred in complying with the UAO; a listing of quantities and types of materials removed; a discussion of removal and disposal options considered for those materials; a listing of the ultimate destinations of those materials; a presentation of the analytical results of all sampling and analyses performed; and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by the person who supervised or directed the preparation of that report.

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of the report, the information submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Daily
- Ambient air samples to be reported to EPA within 24 hours of collection.

2.4.8 Access to Information

Grace shall provide access to all records and documentation relative to the conditions at the Export Plant and the action conducted pursuant to the UAO. Such access shall be provided to EPA employees, contractors, agents, consultants, designees, representatives and state of Montana representatives. Grace shall submit to EPA and the state the results of all sampling or tests and all other data generated by Grace or its contractor(s), or on Grace's behalf during implementation of the UAO. Such sampling results shall be submitted to EPA and the state within two days of receipt by Grace.

- Background @ mobilization
- Building Final Clearance Samples results within 1 week of completion of decontamination
- Post Excavation 1 week
- Background samples during mdo.

2.4.9 Documentation of Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to the UAO for treatment, storage, or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, with 42 United States Code (USC) §9621(d)(3) and the EPA Revised Procedures for Implementing Off-Site Plant Response Actions, OSWER Directive

Number 9834.11, November 13, 1987. Regional offices will provide information on the acceptability of a facility under Section 121(d)(3) of CERCLA and the above directive. Prior notification of out-of-state waste shipments should be given consistent with OSWER Directive 9330.2-07.

2.4.10 Documentation of Compliance with Other Laws

Grace shall perform all actions required pursuant to the UAO in accordance with all applicable local, state and federal laws and regulations except as provided in CERCLA Section 121(e) and 40 C.F.R. Section 300.415(i). In accordance with 40 CFR §300.415(i) all on-site actions required pursuant to the UAO shall, to the extent practicable, as determined by EPA, considering the emergency of the situation, attain ARARs under federal environmental, state environmental, or facility siting laws. Grace shall perform the work in accordance with the ARARs identified in the Action Memorandum attached to the UAO.

Include ARAR's and reference.

2.4.11 Documentation of Emergency Response Actions and Notification of Releases

If any incident, or change in Export Plant conditions, during the actions conducted pursuant to the UAO, causes or threatens to cause an additional release of hazardous substances from the Export Plant or an endangerment to the public health, welfare, or the environment, Grace shall immediately take all appropriate action. Grace shall take these actions in accordance with all applicable provisions of the UAO, including, but not limited to the HSP, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Grace shall also immediately notify the OSC or, in the event of his unavailability, shall notify Steve Hawthorn at 303-312-6061 of the incident or of the Export Plant conditions.

Additionally, in the event of any release of a hazardous substance, Grace shall immediately notify the EPA's OSC and the National Response Center at 800-424-8802, as well as the state. Grace shall submit a written report to the EPA and to the state within three days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release, and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, not in lieu of, reporting under CERCLA Section 103(c) and Section 304 or the Emergency Planning and Community Right-To-Know Act of 1986, 42 USC Sections 11001 *et seq.*

2.4.12 Modifications

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within five days; provided, however, that the effective date of the modification shall be the date of the OSC's oral direction. The rest of the UAO, or any other portion of the UAO may only be modified in writing by signature of the Assistant Regional Administrator, Region 8 Office of Ecosystem Protection and Remediation.

If Grace seeks permission to deviate from any approved plan or schedule, Grace's Project Coordinator shall submit a written request to the EPA and to the state for approval outlining the proposed modification and its basis.

2.4.13 Additional Removals Action Work Plan

If the EPA, in consultation with the state, determines that additional removal actions at the Export Plant not included in an approved plan are necessary to protect public health, welfare, or the environment, the EPA will notify Grace of that determination. Unless otherwise stated by the EPA, within ten days of receipt of notice from EPA that additional removal actions are necessary to protect public health, welfare, or the environment, Grace shall submit for approval by the EPA a Work Plan for the additional removal actions. Such Work Plan shall also be provided to the state. The plan shall conform to the applicable requirements of the UAO. Upon the EPA's approval of the plan pursuant to Section VI of the UAO, Grace shall implement the plan for additional removal actions in accordance with the provisions and schedule contained therein.

2.4.14 Record Retention, Documentation, Availability of Information

Grace shall preserve all documents and information relating to work performed under the UAO, or relating to the hazardous substances found on or released from the Export Plant, for ten years following completion of the removal actions required by the UAO. At the end of this ten-year period and 30 days before any document or information is destroyed, Grace shall notify the EPA and the state that such documents and information are available to the EPA and to the state for inspection, and upon request, shall provide the originals or copies of such documents and information to the EPA. In addition, Grace shall provide documents and information retained under this section at any time before expiration of the ten-year period at the written request of EPA.

Site Photos

Grace shall maintain a running log of privileged documents on a document-by-document basis, containing the date, author(s), addressee(s), subject, the privilege or grounds claimed (e.g., attorney work product, attorney-client), and the factual basis for assertion of the privilege. Grace shall keep the "privilege log" on file and available for inspection. The EPA may, at any time, challenge claims of privilege through negotiations or otherwise as provided by law or the Federal Rules of Civil Procedure.

3.0 Project Organizational Chart

URS has developed a project organization that will provide Grace and our staff with clear lines of communication and a solid organization structure. **Figure 3-1** shows the proposed organization chart for the project. The following paragraphs provide brief descriptions of key staff roles and responsibilities, along with summaries of past work experience. Full resumes for key staff are provided in Appendix D.

Paul Peronard – EPA On-Site Coordinator.

Jim Stout, Project Manager, will be responsible for managing the project on a daily basis and will be the single point of contact for Grace. His tasks will include the management of all design, construction, and abatement activities, providing leadership and guidance to staff, communicating with Grace on project status, and overseeing scheduling and cost control activities.

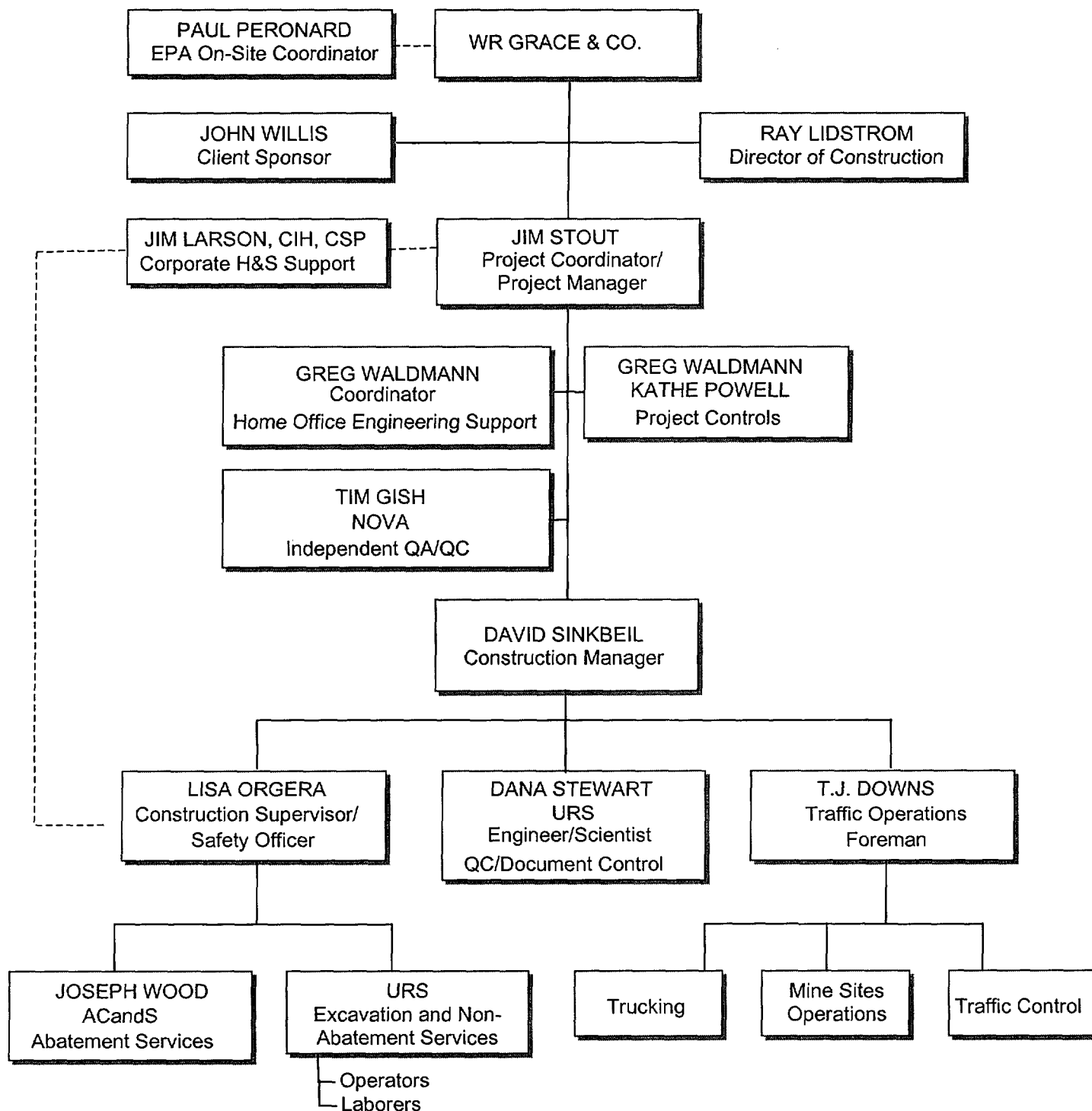
Mr. Stout has over 15 years of experience in industrial hygiene and environmental health. Currently, he is Project Manager for the DPR/Intel building in Colorado Springs. He has conducted hazardous surveys, produced the bid documents and specifications, written the project design, and is overseeing abatement and air monitoring at the Intel building.

Mr. Stout has managed a number of asbestos assessment surveys, generated reports, developed operation and maintenance plans, and has overseen project air monitoring and on-site analyses. His work has spanned a number of sites including, but not limited to, F.E. Warren Air Force Base; several power plants in Colorado, Michigan, and Ohio for the Public Service Company of Colorado; Lockheed Martin; Sioux Falls Public Schools; and Ohio University. Mr. Stout has also directed the asbestos removal efforts for the Cinderella City, Denver project, and has conducted several asbestos surveys at sites on the Army Depot in Pueblo, Colorado.

Mr. Stout is certified in Sampling and Evaluating Airborne Asbestos, Dust – NIOSH 582. He is also an Asbestos Trainer certified by the State of Colorado.

Mr. John Willis, Client Sponsor, is URS's Grace client sponsor and will act as liaison to keep Grace's senior management apprised of the overall status of the project. Using copies of the weekly reports, Mr. Willis will review the progress of the project, discuss status and issues resolution with Ray Lidstrom and Jim Stout, and then update the status to Grace's senior management.

Figure 3-1. Organizational Chart



Mr. Ray Lidstrom, Director of Construction, will provide overall construction oversight and expertise to the project. He will consult with Jim Stout and John Willis as needed. He will focus the project team on achieving a quality closure while optimizing personnel and environmental safety, cost efficiency, and milestone compliance. Mr. Lidstrom has 38 years of direct construction and related operations experience. His responsibilities have included direct performance and staff oversight for remedial investigations, services, construction projects, and treatment plant operations. His broad experience includes administration, engineering management, and direct supervision of Remedial Investigation/Feasibility Study (RI/FS) design, remedial implementation, construction, and facility operations for a broad range of industrial and United States Army Corps of Engineers (USACE) applications. Mr. Lidstrom has had training and experience in union-management negotiations, professional project scheduling, and management. Additionally, he is both trained and experienced in emergency response, hazardous material categorization, and hazardous material transportation.

Mr. Jim Larson, Corporate Health and Safety Support, will be responsible for ensuring that corporate health and safety procedures are developed and followed on this project. Mr. Larson will coordinate with the on-site Health and Safety Officer, John Orgera, to ensure that the appropriate health and safety procedures are followed.

Mr. Larson is both a Certified Industrial Hygienist and a Certified Safety Professional. He has over 20 years of experience in industrial hygiene, occupational safety, and environmental health. His consulting experience ranges from field work to managing of projects for industrial clients, hazardous waste operations, construction projects, and Department of Defense and Department of Energy facilities. As a Regional Health and Safety Manager, Mr. Larson oversees the implementation of health and safety program for Western Region offices and field projects. He develops safety and health programs, provides training, develops and reviews safety and health plans for hazardous waste and construction operations, conducts internal health and safety evaluations of offices and projects, and performs incident investigations.

Mr. Gregory Waldmann, Project Controls, will be responsible for monitoring cost control on this project. His experience in project management, environmental compliance audits, and natural resource management (including survey crew and subcontractor management) provides him with a varied background for project controls.

Mr. Waldmann is certified by the Ecological Society of America as an Associate Ecologist, listed with the EPA Region Radon Proficiency Program and the Colorado Asbestos Building Inspector Program.

Ms. Kathe Powell, Project Controls and Buyer, will be responsible for coordinating purchasing equipment and supplies, setting up subcontract agreements, tracking project expenses, and generating project budget summaries. Ms. Powell will report directly to the Project Manager. She has significant experience in assisting project managers with tracking costs on projects, invoice review and reconciliation, project set-up, subcontracts, cost corrections, project closure, project-related purchasing issues (commercial and government projects), negotiation, and cost analysis.

Mr. Timothy R. Gish, Environmental Specialist for Nova Consulting Group, will provide the independent air sampling quality assurance/quality control. He has seven years of experience as project manager, asbestos building inspector, and lead inspector/monitor. He is experienced in air monitoring and on-site analysis during asbestos abatement projects. His duties have included conducting asbestos building inspection assessments and quantification surveys. He has prepared and written asbestos inspection reports and checked the standard operating procedures, engineering control systems, respiratory protection systems, and decontamination systems. He has also monitored the disposal of hazardous waste, assured regulatory compliance, and maintained client relations.

Mr. Dave Sinkbeil, Construction Manager, has 12 years of experience managing Superfund remediation and construction projects related to historic copper mining operations. He also has 10 years of experience performing various mine planning activities and Professional Engineer certifications of design/construction projects at surface coal mines. Mr. Sinkbeil is a certified Professional Engineer in the State of Montana (#13702PE).

Mr. Sinkbeil has supervised a \$2.5 million remediation of 50,000 cubic yards of arsenic-contaminated soil using pug-mill. In this capacity, he directed the subcontractor performing quality assurance/quality control testing of the treatment process and preparation of as-built drawings. He performed construction contract administration including documenting and reporting progress, negotiating design changes and change orders, processing pay requests, and performing claims management and contract close-out.

Lisa Orgera, Construction Supervisor/Safety Officer, will be responsible for managing daily field activities for all URS personnel and subcontractors. Ms. Orgera will report directly to the Project Manager and will work closely with him on scheduling, planning, and conducting and tracking the field work. Ms. Orgera will also be responsible for site Health and Safety, coordinating with the Corporate Health and Safety, to assure that all work is conducted in a safe manner.

Ms. Orgera was recently responsible for all field operations for the Rocky Mountain Arsenal Remediation and Demolition project. She worked directly with the project manager and site engineers on scheduling, waste delivery, and remediation tasks. This project is the only site ever awarded the OSHA VPP Star Status. Ms. Orgera managed up to 4 foremen and 15 laborers for this project. She has served as Senior Lead Foreman responsible for asbestos crew supervision for Bechtel Control Asbestos Management, where her duties included daily labor tasking, production tracking, and cost-to-complete estimating.

Ms. Dana D. Stuart, URS QC/Document Control, has recent experience with hazardous materials, specifically in the area of asbestos. She has conducted asbestos inspections for various Coast Guard Housing Facilities in Michigan, Wisconsin, Illinois, and Alaska. She is a certified asbestos inspector in Colorado, Michigan, Montana, and Utah. Her other relevant experience includes serving as contractor monitor for lead-based paint abatement and other remediation activities, notetaker for the lead-based paint inspector on a Coast Guard housing survey team, and coordinator for receiving samples from inspectors and sending samples to labs.

Mr. T. J. Downs, Traffic Operations Foreman, is experienced in managing and supervising underground and overhead power distribution activities, crew supervision, and construction management. He has successfully managed several projects with aspects including building construction, site improvements, road and parking area construction, and under and aboveground fuel storage systems removal and replacement.

Mr. Downs is certified and/or trained in the following: 40 Hour Hazardous Waste Operation/Emergency Response (29 CFR – 1910.120); Construction Quality Management for Contractors, U.S. Army Corps of Engineers; and he is qualified and trained for hazardous waste and asbestos site work.

Mr. Joseph Wood, ACandS Project Manager, has 27 years of construction experience, 11 of which is in environmental remediation. He has been a project manager, operations

manager, and construction manager. His certifications and industry training include asbestos contractor/supervisor, NIOSA 582 training, hazardous waste operations training and scaffold building.

4.0 Implementation Schedule

Figure 4-1 is the proposed schedule for removal and abatement activities described in this Work Plan, excluding weather delays and contingencies for unknowns that may be encountered that encumber activities or demolition requirements. The individual tasks shown on the schedule correspond to the Work Breakdown Structure (WBS) discussed in Section 2.

To complete removal actions through backfill and grading the project, with weather contingency allowances, will take approximately five months (20 weeks) from the date of EPA approval. This 20-week schedule is consistent with the EPA's Attachment 2 "Export Plant Schedule of Work" for the duration.

The project consists of three basic groups of activities, including: (1) Project Start-up, 2) Remedial Activities and 3) Project Closeout.

Project Start-up. This work includes preparation of project plans, engineering and procurement activities, mobilization to the site, and preparation of the site for remedial activities. These activities will commence in early June and continue until mid-July (6 weeks).

Remedial Activities. This work includes abatement and decontamination activities for five buildings (pole barn, old vermiculite storage warehouse, large lumber warehouse, operating planer shop, and small shed), and the foundation of a previously demolished shed. This work also includes the removal of contaminated soil and transportation and disposal of all waste materials to the mine site. The site will be backfilled and compacted upon removal of contaminated soils. Remedial activities are scheduled to commence on 17 July and will continue for 12 weeks to completion on 7 October.

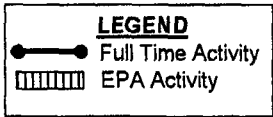
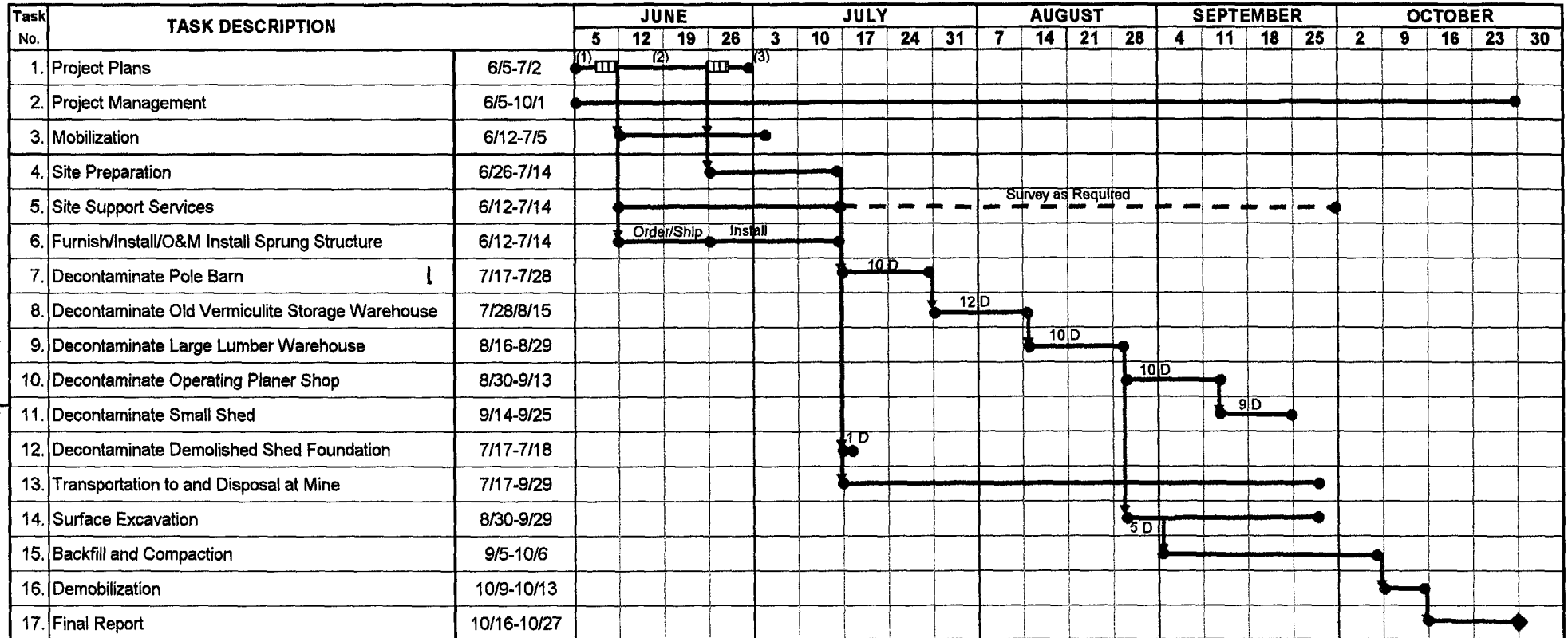
Project Closeout. This work will include a short demobilization period in early October, with site closure on approximately 16 October. A draft and final report summarizing field activities and results will be prepared over a two-week period commencing on 16 October with completion by 27 October.

Color Chart(s)

The following chart(s) contains color that does not appear on the scanned image(s).

Implementation Schedule for Removal and Abatement Activities

The actual full time allocation required is 20 weeks from the date of approval of Work Plan through completion of site backfill/grading. The overall 20 weeks of removal action requirements allows for potential weather delays and other unknowns for which no float time has been included in this schedule.



- (1) Delivery of Draft Plan
 (2) Delivery of Preliminary Supplemental Plans
 (3) Approval of Work Plan by EPA Initiating start of restoration

Figure 4-1

Appendix A
Sampling and Analysis Plan

Appendix B
Health and Safety Plan

Appendix C

Project Execution Plans

- **Traffic Control Plan**
- **Dust Control Plan**
- **Erosion Control Plan**
- **Building Decontamination Plan**
- **Appraisal and Personal Property Valuation Plan**
- **Appraisal and Personal Property Valuation Plan**
- **Disposal Site Closure and Institutional Control Plan**

Appendix D
Key Personnel Resumes